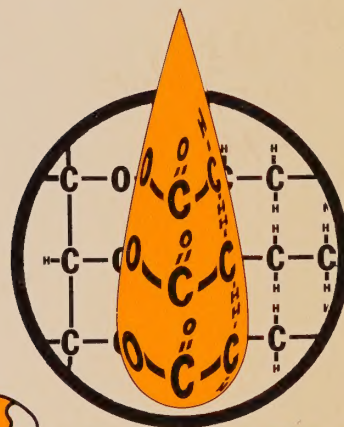


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Fats & Oils in Canada

ANNUAL REVIEW 1974

DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE

FATS AND OILS IN CANADA

Annual Review

June 1975

Prepared by: Grain Marketing Office
Department of Industry, Trade and Commerce
Ottawa, Ontario
Canada K1A OH5



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I N T R O D U C T I O N

"Fats and Oils in Canada - Annual Review 1974" represents the second annual issue of the publication. No issues were published for the years 1970 to 1973 inclusive. As a result of the recommendations of the 1974 Annual Meeting of the Canadian Committee on Fats and Oils and numerous requests from sources inside and outside Canada, the Grain Marketing Office of the Department of Industry, Trade and Commerce is reinstituting publication on a regular basis.

The feature article in this issue is written by Mr. James McAnsh, Executive Director, Rapeseed Association of Canada. Mr. McAnsh provides an overview of Canada's most valuable oilseed crop, rapeseed. The Department joins with the readers of this publication in expressing thanks to Mr. McAnsh for his efforts in presenting the immediate past, current and possible future direction of the Canadian rapeseed industry.

The statistical data contained in the publication have been obtained from Statistics Canada, Department of the Environment, Canadian Grain Commission, United States Department of Agriculture, and Oil World. The tables resulting from these data have been grouped into related product areas to permit ease of consideration. The total figures in the tables, particularly those dealing with imports and exports, have been rounded which account for any apparent discrepancies in the totals.

"Fats and Oils in Canada - Annual Review 1974" is intended to be a working document for people concerned with the development of the Canadian fats and oils industry. Suggestions and comments on this publication are welcome and should be addressed to:

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CHAPTER 1

AN OVERVIEW ON CANADIAN RAPESEED

by James McAnsh

The rapeseed industry in Canada has witnessed dramatic changes since the last issue of the "Annual Review of Fats and Oils in Canada" was published in March 1970. Revival of this publication provides an excellent opportunity to close the gap in the story of the "Cinderella" crop of western agriculture. It will record some of the stirring developments of the past five years and also unfold, in succeeding issues, the results flowing from intensive research and plant breeding programs.

About six months after the 1969 Annual Review had been released in March of 1970, something akin to a bombshell hit the rapeseed industry at an International Rapeseed Conference held at St. Adele, Quebec. The gathering had been sponsored jointly by the Canada Department of Industry, Trade and Commerce and the Rapeseed Association of Canada. It was attended by 400 scientists, technologists and businessmen from 20 nations.

Although adjudged an excellent Conference, St. Adele will best be remembered as the place where the whole rapeseed industry in Canada, from the producer on the farm to the manufacturer of food products from rapeseed oil, received a jolt that set in motion a whole chain of events. Nutritionists from several countries, including the Canada Department of National Health and Welfare, raised serious questions regarding the effect of erucic acid in rapeseed oil on the health of animals with some possible implications for humans.

Lengthy discussions took place but at the conclusion of the proceedings an official statement was issued by the Conference, which included the following:

"One of the sessions drawing considerable attention concerned results of nutritional research on experimental animals fed large quantities of rapeseed oil containing high levels of erucic acid. It was found that such high erucic acid oils cause changes in heart tissues of some of these animals. The levels of rapeseed oil fed to these experimental animals were, however, substantially higher than those attained in the human diet. No hazard to human health has been attributed to rapeseed oil now or throughout its long history as a staple component of the human diet."

Plant breeders reported that new varieties of rapeseed,

low in erucic acid content and higher in linoleic acid, had been developed in several countries, and that a gradual change-over to these new varieties would be possible in many rapeseed growing countries within a few years. Canada's Minister of National Health and Welfare declared it prudent to recommend a phasing in of the new low erucic acid rapeseed varieties.

NEW BALL GAME

Thus began an entirely new ball game, from which emerged a multitude of problems for producers, crushers of the seed and refiners of the oil. There was a substantial monetary cost to farmers in terms of lower yields from the first of the new varieties seeded in 1971. The crushers were unhappy with the lower yield of oil in the new seed and lower protein in the meal, while overseas buyers of Canadian rapeseed also had reason to complain. The Canada Department of Agriculture provided some compensation in an effort to assuage the crushers and others.

Meanwhile, the plant breeders were working at top speed to introduce new lower erucic varieties which would overcome the shortcomings of the 1971 varieties of Span, Zephyr and Oro. In the short space of three years, their efforts were crowned with success and, in 1974, lower erucic rapeseed varieties accounted for more than 94% of the seeded crop in western Canada. This accomplishment was given recognition when the Royal Bank of Canada 1975 Award went to Dr. R.K. Downey Research Station, Agriculture Canada, Saskatoon, and Dr. B.R. Stefansson, Plant Science Department, University of Manitoba, Winnipeg.

These two dedicated scientists shared the Award, which carried with it the sum of \$50,000, for their work in spearheading the development of new varieties of rapeseed that have made this oilseed an increasingly valuable source of food for both human and animal consumption.

Canadian rapeseed has been launched now on a course that will, within the next three to four years, so transform the characteristics and quality of this oilseed that it will not be recognizable when compared with what we had in Canada five years ago. The first of what has been labelled the "double-zero" varieties, licensed in February 1974 under the name of "Tower", could be a significant part of Canada's 1975 production of rapeseed. It is low in erucic acid in the oil,

and low in glucosinolates in the meal. The latter is a giant step forward in making rapeseed meal highly competitive with other protein meals in livestock and poultry feed formulas.

MARKET DEVELOPMENT

Whether measured over the past decade or just the five years since the last issue of this Annual Review was published, expansion of the market for Canadian rapeseed has been quite spectacular. Domestic crushers have been processing for oil and meal at a steadily rising rate, while overseas demand for the seed for crushing abroad has developed to levels that could not have been predicted even five years ago. Although production has at times been below the desired volume, it has been sufficiently maintained to service the markets at home and abroad. Statistics relating to the past five crop years are tabulated below:

| <u>Crop Year</u> (Aug.-July) | <u>Production</u> (Gross Busgels) | <u>Domestic</u> <u>Crush</u> | <u>Exports</u> <u>Overseas</u> |
|---------------------------------|--------------------------------------|---------------------------------|-----------------------------------|
| (Millions of Bushels) | | | |
| 1969-70 | 33.4 | 7.7 | 22.2 |
| 1970-71 | 72.2 | 8.6 | 46.8 |
| 1971-72 | 95.0 | 12.0 | 42.6 |
| 1972-73 | 57.3 | 15.6 | 54.1 |
| 1973-74 | 53.2 | 14.7 | 39.2 |

The Rapeseed Association of Canada (RAC) has contributed substantially to the expansion of markets for rapeseed and rapeseed products. Formed in March 1967, this national organization represents every segment of the industry from the producer in western Canada to the end user. It has mounted trade development missions to Asia, Europe, Mexico and Central and South America, and has co-operated with the Grain Marketing Office of the Canada Department of Industry, Trade and Commerce in other overseas missions and when missions from abroad visited Canada.

As a tool in the promotion of rapeseed meal as an ingredient in livestock and poultry rations, the RAC produced a film and a booklet, both of which were translated into at

least six languages, i.e. English, French, German, Italian, Japanese and Spanish. The Grain Marketing Office of the Canada Department of Industry, Trade and Commerce assisted in the financing of these projects, the results of which have been highly satisfactory.

RESEARCH PROGRAMS

In the important field of research, the RAC has been closely associated with the Grain Marketing Office of the Canada Department of Industry, Trade and Commerce, almost from its beginnings. In many of these research programs, the Canadian oilseed crushers have made substantial contributions. They have provided rapeseed oil and rapeseed meal for experimental use in small and large programs, and have made the products available also to overseas researchers, frequently at their own expense. Two of the major research programs, funded by the Grain Marketing Office of the Canada Department of Industry, Trade and Commerce, and administered by the RAC, are briefly described hereunder.

RUAP

This program, known as the Rapeseed Utilization Assistance Program, has been in effect since the crop year 1968-69. The Research Committee of the RAC is responsible for establishing the projects and their priorities, and a member of the staff of the RAC disburses the funds as agreed by the Committee. This work has been of enormous benefit to the rapeseed industry and to date three progress reports have been issued by the RAC.

Varietal Development

The need to accelerate development of new varieties of rapeseed to meet the new requirements of the market led to the "Varietal Development Program" being set up in 1973. This was a three-year program mainly to provide the necessary funds for plant breeders in the three prairie provinces. The funds were provided jointly by the Grain Marketing Office of the Canada Department of Industry, Trade and Commerce and the RAC. The second three-year program (1975-77) is scheduled to begin July 1, 1975 with the assistance of the New Crop Development Program of the Canada Department of Agriculture.

Changes effected in the varieties of rapeseed now being grown in Canada may be noted from the following data

published in the 1969 issue of this Review, and the survey of varieties made by the provincial pools in 1974.

Rapeseed Varieties Seeded

| <u>In 1969</u> | | <u>In 1974</u> | |
|------------------|------------|-----------------|------------|
| High Erucic Acid | | Low Erucic Acid | |
| (Per Cent) | | | |
| Echo | 52.8 | Span | 32.2 |
| Arlo | 17.2 | Torch | 31.6 |
| Polish | 13.9 | Midas | 20.0 |
| Target | 11.9 | Zephyr | 5.7 |
| Tanka | 2.6 | Oro | 2.4 |
| Other | <u>1.6</u> | Tower | <u>1.9</u> |
| Total | 100.0 | Total Low | 93.8 |

The balance of 6.2% of the 1974 seedings was accounted for by high erucic acid varieties mainly in Alberta, with Echo and Target favoured by producers.

DISTRIBUTION OF EXPORTS

During the past five years Japan has been the leading buyer of Canadian rapeseed by a substantial margin, but in the record exports in crop year 1972-73, thirteen countries were named as the primary destination of overseas shipments. The number of recipient countries is probably somewhat larger, since Canadian rapeseed discharged in Rotterdam, Antwerp or Hamburg, might be trans-shipped to other countries such as Britain, Czechoslovakia and Switzerland.

Primary destinations of overseas shipments of Canadian rapeseed during each of the last five crop years, are tabulated hereunder:

Canadian Rapeseed Exports by Countries

Crop Years 1969-70 - 1973-74

(Thousands of Metric Tons)

| <u>Destination</u> | <u>1969-70</u> | <u>1970-71</u> | <u>1971-72</u> | <u>1972-73</u> | <u>1973-74</u> |
|--------------------|----------------|----------------|----------------|----------------|----------------|
| Japan | 326.6 | 359.2 | 505.5 | 699.2 | 662.8 |
| Netherlands | 63.5 | 210.8 | 133.6 | 61.3 | 50.0 |
| Italy | 19.1 | 99.7 | 63.0 | 81.4 | 14.9 |
| West Germany | 21.9 | 100.7 | 35.6 | 71.0 | 26.4 |
| Morocco | 16.3 | 11.6 | 15.2 | - | - |
| Britain | 15.8 | 6.8 | 11.3 | 3.0 | - |
| France | - | 101.2 | 167.8 | 45.1 | 13.5 |
| Taiwan | - | - | - | 26.5 | - |
| Belgium | 6.9 | - | 3.7 | 3.0 | 0.6 |
| India | - | 86.4 | 16.9 | 79.9 | 18.5 |
| Norway | 5.5 | 10.8 | 3.2 | - | - |
| Mexico | 12.6 | - | - | 23.5 | 29.2 |
| Australia | - | - | 3.4 | 21.2 | 13.3 |
| Bangladesh | - | - | - | 103.1 | 47.7 |
| Others | 16.0 | 75.2 | 7.5 | 8.9 | 11.7 |
| | <u>504.2</u> | <u>1,062.4</u> | <u>966.7</u> | <u>1,227.1</u> | <u>888.6</u> |

Source: Statistics Division, Canadian Grain Commission.

Rapeseed provides a relatively quick and economic way of supplying the steadily increasing world demand for edible oils and proteins. In this regard, Canada holds a comparative

advantage both in terms of ability to increase supplies and the relative economics of large scale production.

Rapeseed Oil

Rapeseed oil has not only greatly increased its utilization in the production of margarine oil, shortening oil, and salad oil in Canada, but it has become an item of export. The volume is still relatively small but the growth potential is quite significant and when the increased crushing capacity now developing in western Canada is completed there will be pressure to build up export trade.

Canada's crushing industry is the second largest customer for the farmer's rapeseed production and over the past five years has averaged better than 20% in the utilization of rapeseed.

Exports of rapeseed oil have not yet reached a high volume but are increasing to the point where it has become necessary to build tank storage for the oil at seaboard ports. Negotiations, which took place with representatives of the crushers and others have been concluded at Vancouver, where it is expected a total of 20,000 metric tons of oil tank storage will be installed.

Rapeseed Meal

Just as exports of rapeseed oil are building up gradually, so are exports of Canadian rapeseed meal. The domestic utilization of the meal in Canada has been quite substantial but the big increase in crushing capacity over the next year or two will put pressure on processors to find markets abroad for the surplus meal.

With the introduction of low glucosinolate meal through the new varieties of rapeseed being developed by our plant breeders, Canadian rapeseed meal will be freed from some of the restrictions now prevailing in the animal feed industry. The animal nutritionists will be able to recommend higher percentages of rapeseed meal in the livestock and poultry rations and this will broaden demand at home and overseas.

SUMMARY

In summarizing the foregoing and taking a forward look at rapeseed, there is room only for optimism. This oilseed

crop is now an intrinsic part of Canadian agriculture, from the point of view of not only diversification of production, but economic advantage. In the past five years, the farm value of the rapeseed crop has risen from \$168 million in 1970 to more than \$250 million in 1974. Economic studies leave no doubt that rapeseed is and will continue to be a viable alternative to cereal production.

Rapeseed was first produced in Canada commercially in 1943. It has had its problems over these three decades as did most other field crops that preceded it, but rapeseed is fast overcoming these problems thanks to the great strides made in the fields of science and technology. The plant breeders are developing new and better varieties, the animal nutritionists and food processors are increasing the utilization of the meal and the oil products of rapeseed, while control of weeds, insects and disease is being given a high priority. Altogether, their activities are preparing the way for a sunnier climate.

Many producers of the crop are becoming more expert in management and are following cultural practices that produce maximum results. This is paying off handsomely in net returns per acre. There is wide scope, however, for greatly increasing the national average yield per acre and this could be done in fairly short order if the excellent advice farmers are getting from agronomists and others, including neighbouring farmers who outstrip the national average yield year after year, was applied vigorously.

Within the 1970's, Canada will be producing commercially, rapeseed low in erucic acid content and low in glucosinolates. The first of these varieties has been licensed and others will follow. Progress is being made in a third stage which will lower the fibre content of rapeseed meal and produce eventually a yellow shade of seed coat. At this point of time, rapeseed will offer very strong competition to soybeans which have dominated the world markets, both oil and protein, for many years. The horizons for rapeseed are bright, and Canada is in the forefront as the world's largest single supplier of rapeseed in international trade.

CHAPTER 2

WORLD PRODUCTION AND TRADE IN OILSEEDS,

FATS, OILS AND MEALS

The period 1970-74 saw a gradual increase in world production of fats and oils, from 39 million tons to 45 million (Table 1). Edible vegetable oils accounted for about 50 percent of annual production, with soybean, sunflower, peanut, cottonseed and rapeseed oils comprising the bulk of edible oil production.

Palm and coconut oil production also increased during this period and comprised about 12 percent of total production, or 5 million tons in 1974, up from 4 million tons in 1970.

Animal fats showed a very slight increase over the period, to 13 million tons, about 25 percent of total world fats and oils production.

Industrial oil production declined from 1.8 million tons in 1970 to 1.5 million, due to a sharp reduction in linseed oil production.

Marine oils also declined from 1.2 million tons in 1970 to 1.0 million in 1974, mainly because of a decline in fish oil production in Peru.

Overall during this period, fats and oils production increased slightly faster than the long-term trend.

World Production of Selected Oilseed Meals and Fish Meal

Soybean meal continued to dominate the world oilmeal production during the period 1970-75, as total oilmeal production increased by 25 percent from 46 million metric tons to 61 million (Table 2). Soybean meal accounted for more than half of the total production.

Fish meal production was variable between 5.2 and 7.4 million tons. Production in 1973 was reduced because of the failure of the Peruvian fish catch.

Output of peanut meal, sunflowerseed meal and rapeseed meal did not increase by a large amount during the five year period, and accounted for about 18 percent of oilmeal output in 1974.

It is expected that soybean meal and copra meal will continue to increase in the foreseeable future, particularly in view of increased production in Brazil and South-East Asia.

World Net Exports of Oilseeds, Oils and Fats

The period 1969-73 saw large increases in exports of soybeans, rapeseed, coconut oil and palm oil (Table 3). Certain oilseeds declined - cottonseed, groundnuts and sunflowerseed.

In terms of oilseed exports, soybeans comprised over 85 percent of the export volume in 1973. Brazil is quickly becoming a more important factor in the world oilseed market, with soybean production increases of 20 percent annually.

Exports of rapeseed expanded by more than 100 percent over the period 1969-73. Canada became the world's largest rapeseed exporter during this period.

Exports of palm oil and coconut oil expanded quickly during this period, from 1.1 million tons to 1.8 million tons. Palm oil production is increasing rapidly in Malaysia and Indonesia and therefore increasing quantities will be offered for export.

Exports of animal fats, particularly butter, as a result of the large sale of butter by the EEC to U.S.S.R. in 1973, expanded during the period 1969-73, from 0.95 million tons to 1.3 million. Marine oil exports decreased slightly.

Exports of industrial oils decreased slightly from 0.72 million tons to 0.65 million, primarily because of decreased flaxseed exports.

World Net Exports of Oilseed Meals and Fish Meal

Soybean meal comprised about two-thirds of the total oilmeal exports during 1970-73 (Table 4). Fish meal exports declined by about 50 percent in 1973 due to the reduced Peruvian output.

The share of net exports taken by soybeans and soybean meal increased, as did rapeseed. Most other oilseeds declined in terms of export shares.

Soybean meal gradually increased its share of the net exports of soybean products, with a corresponding decline in the soybean share. This indicates that consumption increased more quickly than domestic crushing in the importing countries.

Total net exports, expressed in protein units, as defined in Table 4, increased from 11.3 million tons in 1970 to 12.3 million in 1973. The soybean share increased from 6.5 to 8.4 million tons while rapeseed went from 0.2 to 0.4 million tons, to become the fourth most important oilmeal in terms of world net exports, after soybean meal, groundnut meal and cottonseed meal.

WORLD PRODUCTION OF OILS AND FATS, ANNUAL 1970-74

WITH ANNUAL INCREASES 1/

(In million metric tons)

| Item | 1970 | 1971 | 1972 | 1973 | 1974 | Forecast 1975 | Annual Increases | | |
|-----------------------------------|-------|-------|-------|-------|-------|------------------|------------------|------|-------|
| | | | | | | | 1965-73 trend | 1974 | 1975 |
| Soybean oil: | | | | | | | | | |
| U.S. | 5.13 | 5.10 | 5.33 | 5.75 | 7.01 | 5.59 | .29 | 1.26 | -1.42 |
| Brazil | .25 | .34 | .60 | .81 | 1.21 | 1.51 | .08 | .40 | .30 |
| Other | .64 | .73 | .71 | .75 | .85 | .82 | .01 | .10 | -.03 |
| Total | 6.02 | 6.17 | 6.64 | 7.31 | 9.07 | 7.92 | .38 | 1.76 | -1.15 |
| Sunflower oil | 3.80 | 3.61 | 3.63 | 3.56 | 4.49 | 4.09 | .07 | .93 | -.40 |
| Palm oil | 1.71 | 1.91 | 2.11 | 2.22 | 2.50 | 2.70 | .13 | .28 | .20 |
| Peanut oil | 3.27 | 3.35 | 3.52 | 2.91 | 3.02 | 3.09 | -.01 | .11 | .07 |
| Cottonseed oil | 2.40 | 2.40 | 2.63 | 2.81 | 2.83 | 2.90 | .03 | .02 | .07 |
| Rapeseed oil | 1.88 | 2.48 | 2.56 | 2.39 | 2.33 | 2.42 | .15 | -.06 | .09 |
| Lauric acid oils 2/ | 2.66 | 2.96 | 3.34 | 2.86 | 2.76 | 3.08 | .06 | -.10 | .32 |
| Olive oil 3/ | 1.24 | 1.45 | 1.55 | 1.44 | 1.53 | 1.41 | .04 | .10 | -.13 |
| Other edible vegetable oils 4/ | 1.08 | 1.22 | 1.23 | 1.16 | 1.14 | 1.18 | .03 | -.02 | .04 |
| Marine oils 5/ | 1.24 | 1.35 | 1.11 | .98 | 1.10 | 1.14 | -.01 | .12 | .04 |
| Animal fats 6/ | 12.32 | 12.76 | 13.02 | 12.76 | 13.10 | 12.98 | .14 | .34 | -.12 |
| Industrial oils 7/ | 1.78 | 1.90 | 1.50 | 1.40 | 1.43 | 1.38 | -.02 | .11 | -.13 |
| World Total | 39.40 | 41.56 | 42.84 | 41.80 | 45.30 | 44.29 | .99 | 3.59 | -1.10 |
| U.S. Total | 10.31 | 10.43 | 10.34 | 10.64 | 12.23 | 10.59 | .26 | 1.59 | -1.64 |
| Foreign Total | 29.09 | 31.13 | 32.50 | 31.16 | 33.07 | 33.70 | .73 | 2.00 | .54 |

TABLE 1

- 1/ Oil production estimated on the basis of average assumed extraction rates and therefore represent potential rather than actual oil production. (Canadian extraction rates are given under "Conversion Factors" on the last page of this Review.)
- 2/ Includes coconut, palm kernel and babassu oils.
- 3/ Excludes olive residue oil.
- 4/ Includes sesame, safflower, corn.
- 5/ Includes fish, whale and sperm oils.
- 6/ Includes butter, lard, tallow and greases.
- 7/ Includes linseed, castor, oiticica, tung and oil residue oils.

SOURCE: United States Department of Agriculture, FOP 2/75

TABLE 2

WORLD PRODUCTION OF SELECTED OILSEED MEALS & FISH MEAL

(Million Metric Tons)

| <u>OILSEED MEALS</u> | <u>1971</u> | <u>1972</u> ^{2/} | <u>1973</u> ^{3/} | <u>1974</u> ^{4/} | <u>1975</u> ^{4/} |
|---------------------------|-------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Soybean Meal | 27.68 | 29.78 | 32.73 | 40.58 | 40.96 |
| Peanut Meal | 4.55 | 4.79 | 3.96 | 4.41 | 4.59 |
| Sunflower Meal | 3.19 | 3.30 | 3.27 | 4.08 | 4.00 |
| Rapeseed Meal | 2.66 | 2.73 | 2.58 | 2.64 | 2.80 |
| Other ^{1/} | 8.10 | 8.13 | 8.24 | 8.38 | 8.83 |
| <hr/> | | | | | |
| T O T A L ^{5/} | 46.18 | 48.73 | 50.78 | 60.09 | 61.18 |
| <hr/> | | | | | |
| Fish Meal | 7.44 | 5.80 | 5.16 | 6.33 | 7.23 |
| <hr/> | | | | | |
| WORLD TOTAL ^{5/} | 53.62 | 54.53 | 55.94 | 66.42 | 68.41 |
| <hr/> | | | | | |

NOTE: Calendar years. Calculated on the basis of assumed average extraction rates and crushings. Sunflower-seed of the Southern Hemisphere harvested in the first half of the calendar year are included as meal production in the same year. Canadian rapeseed harvest was lagged to the year following the harvest. Calculated production represents potential meal production, but may differ from actual meal outturn in a given year.

1/ Includes cottonseed, linseed, copra and palm kernel meals.

2/ Preliminary.

3/ Partly estimated.

4/ Forecast.

5/ 44 percent soybean meal equivalent basis.

SOURCE: USDA, FAC, FFO7-74

TABLE 3

WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS
(Thousands of Metric Tons)

| <u>PRIMARILY FOR FOOD</u> | <u>1969</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> |
|---------------------------|-------------|-------------|-------------|-------------|-------------|
| Soybeans | 9,365 | 12,601 | 12,239 | 13,479 | 15,207 |
| Soybean Oil | 402 | 679 | 793 | 655 | 552 |
| Total as Oil | 1,928 | 2,947 | 2,996 | 3,081 | 3,289 |
| Cottonseed | 462 | 493 | 422 | 380 | 277 |
| Cottonseed Oil | 211 | 237 | 260 | 304 | 320 |
| Total as Oil | 285 | 316 | 331 | 368 | 368 |
| Groundnuts | 992 | 661 | 508 | 425 | 515 |
| Groundnut Oil | 334 | 379 | 321 | 463 | 430 |
| Total as Oil | 770 | 670 | 547 | 652 | 659 |
| Sunflowerseed | 522 | 447 | 294 | 447 | 384 |
| Sunflower Oil | 871 | 629 | 588 | 573 | 600 |
| Total as Oil | 1,101 | 825 | 711 | 750 | 761 |
| Rapeseed | 737 | 887 | 1,679 | 1,610 | 1,648 |
| Rapeseed Oil | 92 | 132 | 214 | 326 | 269 |
| Total as Oil | 379 | 478 | 860 | 938 | 903 |
| Sesame | 209 | 195 | 199 | 226 | 245 |
| Sesame as Oil | 98 | 92 | 93 | 106 | 115 |
| Olive Oil ^{1/} | 246 | 222 | 324 | 283 | 322 |
| <u>Totals</u> | | | | | |
| Seeds | 12,287 | 15,284 | 15,341 | 16,567 | 18,276 |
| Vegetable Oils | 2,008 | 2,148 | 2,917 | 2,816 | 2,608 |
| Combined as Oil | 4,709 | 5,458 | 5,862 | 6,178 | 6,417 |
| <u>Palm</u> | | | | | |
| Copra | 1,071 | 906 | 1,114 | 1,352 | 1,027 |
| Coconut Oil | 370 | 513 | 588 | 681 | 572 |
| Total as Oil | 1,055 | 1,092 | 1,295 | 1,539 | 1,224 |
| Palm Kernels | 443 | 464 | 490 | 413 | 311 |
| Palm Kernel Oil | 118 | 114 | 115 | 160 | 190 |
| Total as Oil | 326 | 332 | 342 | 352 | 334 |
| Palm Oil | 714 | 744 | 1,011 | 1,108 | 1,218 |

TABLE 3 (Cont'd)

WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS

(Thousands of Metric Tons)

| | <u>1969</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> |
|---|-------------|-------------|-------------|-------------|-------------|
| <u>Totals</u> | | | | | |
| Seeds | 1,514 | 1,370 | 1,604 | 1,765 | 1,338 |
| Vegetable Oils | 1,202 | 1,371 | 1,714 | 1,949 | 1,920 |
| Combined as Oil | 2,095 | 2,168 | 2,348 | 2,999 | 2,776 |
| <u>ANIMAL FATS, EDIBLE</u> | | | | | |
| Butter (82%) | 555 | 617 | 635 | 552 | 860 |
| Lard ^{2/} | 393 | 414 | 478 | 485 | 456 |
| Total | 948 | 1,031 | 1,113 | 1,037 | 1,316 |
| <u>MARINE OILS, EDIBLE</u> | | | | | |
| Whale Oil (Production) | 75 | 69 | 60 | 47 | 44 |
| Fish Oils | 645 | 563 | 672 | 741 | 564 |
| Total | 720 | 632 | 732 | 788 | 608 |
| <u>WORLD TOTALS, PRIMARILY FOR FOOD</u> | | | | | |
| Oilseeds, Actual Weight | 13,801 | 16,654 | 16,945 | 18,332 | 19,614 |
| Vegetable Oils | 3,210 | 3,519 | 4,631 | 4,765 | 4,528 |
| Animal and Marine | 1,668 | 1,663 | 1,845 | 1,825 | 1,924 |
| Grand Total, Oil Basis | 8,472 | 9,289 | 10,055 | 11,002 | 11,117 |
| <u>PRIMARILY NON-FOOD</u> | | | | | |
| Linseed | 627 | 592 | 654 | 878 | 462 |
| Linseed Oil | 190 | 214 | 250 | 211 | 211 |
| Total as Oil | 409 | 421 | 472 | 509 | 368 |
| Castor Beans | 117 | 138 | 143 | 106 | 99 |
| Castor Oil | 206 | 178 | 152 | 174 | 181 |
| Total as Oil | 259 | 240 | 216 | 221 | 225 |
| Tung Oil | 51 | 39 | 58 | 64 | 55 |

TABLE 3 (Cont'd)

WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS

(Thousands of Metric Tons)

| | <u>1969</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|
| <u>Totals</u> | | | | | |
| Seeds | 744 | 730 | 797 | 984 | 561 |
| Oils | 447 | 431 | 460 | 449 | 447 |
| Combined as Oil | 719 | 700 | 746 | 784 | 648 |
| Tallow & Greases ^{2/} | 1,319 | 1,463 | 1,625 | 1,587 | 1,490 |
| Sperm Oil (Production) | 130 | 140 | 97 | 100 | 107 |
| <u>WORLD TOTALS</u> | | | | | |
| <u>PRIMARILY NON-FOOD</u> | | | | | |
| Oilseeds, Actual Weight | 744 | 730 | 797 | 984 | 561 |
| Vegetable Oils | 447 | 431 | 460 | 449 | 447 |
| Animal and Marine | 1,449 | 1,603 | 1,722 | 1,687 | 1,597 |
| Grand Total, Oil Basis | 2,168 | 2,303 | 2,468 | 2,481 | 2,245 |
| <u>WORLD GRAND TOTALS</u> | | | | | |
| Oilseeds, Actual Weight | 14,545 | 17,384 | 17,742 | 19,613 | 20,175 |
| Vegetable Oils | 3,657 | 3,950 | 5,091 | 5,214 | 4,975 |
| Animal and Marine | 3,117 | 3,266 | 3,567 | 3,512 | 3,521 |
| Grand Totals, Oil Basis | 10,640 | 11,592 | 12,523 | 13,483 | 13,362 |

1/ Including residue oil, partly inedible.

2/ Including negligible amounts of edible tallow.

SOURCE: "Oil World", Hamburg, December 1972 and 1974.

TABLE 4

WORLD NET EXPORTS OF OILSEED MEALS AND FISH MEAL
(Thousands of Metric Tons)

| Oilseed Meals | 1 9 7 0 | | | | 1 9 7 1 | | | |
|----------------------------|---------------------|--------|--------|---------------------|---------------------|--------|--------|---------------------|
| | Seed ¹ / | Meal | Total | Prot ² / | Seed ¹ / | Meal | Total | Prot ² / |
| Soybean | 9,955 | 4,228 | 14,183 | 6,524 | 9,738 | 5,032 | 14,770 | 6,794 |
| Cottonseed | 340 | 1,262 | 1,602 | 657 | 268 | 1,057 | 1,325 | 543 |
| Groundnut | 370 | 1,446 | 1,816 | 944 | 282 | 1,296 | 1,578 | 821 |
| Sunflowerseed | 165 | 587 | 752 | 323 | 143 | 435 | 578 | 231 |
| Rapeseed | 506 | 123 | 629 | 214 | 701 | 197 | 898 | 305 |
| Sesame | 101 | 31 | 132 | 53 | 101 | 25 | 126 | 50 |
| Copra | 317 | 492 | 809 | 178 | 395 | 597 | 992 | 218 |
| Palm Kernel | 241 | 176 | 417 | 75 | 257 | 158 | 415 | 95 |
| Linseed | 379 | 565 | 944 | 340 | 413 | 608 | 1,021 | 368 |
| Unspecified ³ / | 160 ⁴ / | 368 | 528 | 179 | 165 ⁴ / | 359 | 524 | 177 |
| Total | 12,534 | 9,278 | 21,812 | 9,487 | 12,463 | 9,764 | 22,227 | 9,602 |
| Fish Meal | - | 2,840 | 2,840 | 1,846 | - | 2,790 | 2,790 | 1,813 |
| GRAND TOTAL | 12,534 | 12,118 | 24,652 | 11,333 | 12,463 | 12,554 | 25,017 | 11,415 |

| Oilseed Meals | 1 9 7 2 | | | | 1 9 7 3 | | | |
|----------------------------|---------------------|--------|--------|---------------------|---------------------|--------|--------|---------------------|
| | Seed ¹ / | Meal | Total | Prot ² / | Seed ¹ / | Meal | Total | Prot ² / |
| Soybean | 10,714 | 5,087 | 15,801 | 7,268 | 12,090 | 6,101 | 18,191 | 8,368 |
| Cottonseed | 224 | 1,318 | 1,542 | 632 | 163 | 1,317 | 1,480 | 607 |
| Groundnut | 234 | 1,673 | 1,907 | 992 | 283 | 1,465 | 1,748 | 909 |
| Sunflowerseed | 234 | 392 | 626 | 250 | 201 | 456 | 657 | 263 |
| Rapeseed | 723 | 237 | 960 | 326 | 916 | 193 | 1,109 | 377 |
| Sesame | 118 | 35 | 153 | 61 | 127 | 40 | 167 | 67 |
| Copra | 477 | 673 | 1,150 | 253 | 368 | 576 | 944 | 208 |
| Palm Kernel | 207 | 217 | 424 | 98 | 146 | 243 | 389 | 89 |
| Linseed | 553 | 436 | 989 | 356 | 290 | 461 | 751 | 270 |
| Unspecified ³ / | 150 ⁴ / | 479 | 629 | 232 | 170 ⁴ / | 642 | 812 | 300 |
| Total | 13,634 | 10,547 | 24,181 | 10,468 | 14,754 | 11,494 | 26,248 | 11,458 |
| Fish Meal | - | 2,645 | 2,645 | 1,719 | - | 1,338 | 1,338 | 870 |
| GRAND TOTAL | 13,634 | 13,192 | 26,826 | 12,187 | 14,754 | 12,832 | 27,586 | 12,328 |

TABLE 4FOOTNOTES TO WORLD NET EXPORTS OF OILSEED MEALS AND FISH MEAL

- 1/ Oilseed meal equivalents of oilseed net exports or net export availabilities, respectively.
- 2/ Average raw protein content of oilcake/expeller/meal.
- 3/ Except castor bean.
- 4/ Mainly safflowerseed.

SOURCE: "Oil World", Hamburg, Semi-Annual Review November 1971 & 1972 and December 1974.

CHAPTER 3

CANADIAN PRODUCTION AND TRADE IN OILSEEDS,

FATS, OILS AND MEALS

Edible vegetable oil production expanded rapidly during the period 1970-74, from 417 million pounds to 536 million (Table 5). Rapeseed oil and sunflowerseed oil were together responsible for this increase.

Rapeseed oil production surpassed that of soybean oil in 1972 and 1973, due to increased processing capacity and attractive processing margins. Rapeseed oil output slipped in 1974 to 249 million pounds and soybean oil again became the leading oil in terms of production volume. Sunflowerseed oil production is relatively minor accounting for only 3% in 1974.

Regarding animal fats, there is no real trend with respect to lard and tallow production, but butter production was down significantly during the period, to 195 million pounds in 1974 from 273 million in 1970.

Production of inedible oils is trending downwards due to the decreased demand for linseed oil.

Canadian Imports of Fats and Oils

Vegetable oil imports during 1970 to 1974 varied from 320 million pounds in 1973 to 441 million in 1974 (Table 6). Soybeans and soybean oil accounted for much of this increase. Other oils are imported either to supplement domestic production or as specialty oils which are not produced in Canada. The latter category includes coconut oil, peanut oil, palm oil, palm kernel oil and olive oil.

Vegetable oil imports vary from year to year in relation to price and inventory changes. Also, increased supplies of certain oils are being imported from large U.S. plants benefitting from economies of scale and minimal tariff levels. Ontario soybean growers have withheld a large portion of their 1974 production in the hope of receiving higher returns and this has necessitated larger imports of soybeans and oil from the United States.

The Canadian market for edible vegetable oils is expanding in line with population growth, i.e. 1 to 2 percent per year. Large changes in import volume such as occurred between 1973 and 1974 are due to other market factors apart from domestic market expansion.

Imports of inedible fats and oils decreased sharply during the period under review, from 35 million pounds in 1970 to 20 million pounds in 1974.

Canadian Exports of Fats and Oils

Exports of edible vegetable oils, either as oil or in seed form, increased steadily during the period 1970 - 1974 (Table 7). Rapeseed accounted for most of the increase. Exports of soybeans and soybean oil decreased rather sharply, due to this the loss of preferential treatment in the United Kingdom market. Exports of other edible fats and oils were small and varied from year to year depending on availability and export demand.

With regard to exports of inedible oils, flaxseed shipments declined due to increased competition from Argentina exporters of linseed oil, and somewhat softer export demand. Exports of inedible tallow were variable from year to year without showing any trend.

The bulk of Canadian vegetable oil exports during this period were as seed or beans rather than oil. This reflects the preference of our traditional markets to import seed for processing rather than oil, and also reflects the shortage of crushing capacity in Canada during this period to process these oilseeds prior to export.

Canadian Oilseeds: Acreage, Yield, Production

Rapeseed acreage in 1971 was exceptionally large (5.3 million acres) due to the LIFT program (Lower Inventory For Tomorrow) for cereals (Table 8). Since that year, acreage of this crop has stabilized at just over 3 million acres.

Soybean acreage was fairly stable at between 360,000 and 445,000 acres. Production is presently restricted to South-western Ontario because of the heat units necessary to mature the crop. Acreage cannot be expanded significantly until varieties with a wider heat unit range are developed.

Flaxseed production varies from year to year in relation to the prices of competing crops, but it did not vary more than 250,000 acres during the period 1971-74.

Mustardseed and sunflowerseed are rather minor crops. Acreage of sunflowerseed decreased sharply in 1974 because of high cereal prices. These two crops are grown almost entirely under contract.

It is felt that there is considerable room for yield improvement in general and in rapeseed in particular. A limited number of rapeseed growers regularly achieve yield in excess of 30 bushels per acre, while the average yield is 16 to 18 bushels per acre.

Canadian Crushings of Vegetable Oilseeds

During the period 1969-74, rapeseed processing trended upwards until 1973/74 when it decreased marginally (Table 10). Capacity doubled during this period, and rapeseed oil and meal production increased proportionally.

Soybean processing was relatively stable at between 22 and 24 million bushels. United States soybeans were imported to supplement domestic supplies for processing into oil and meal.

Soybean meal continued to be the leading meal produced in Canada. Rapeseed oil replaced soybean oil production in volume terms during the period under review.

Flaxseed processing declined in line with decreasing market demand for linseed oil for industrial uses.

Sunflowerseed processing was limited to slightly over 2 million bushels due to the restricted supply of raw material. There is currently only one processor of sunflowerseed in Canada.

Monthly Prices of Oils and Meals

Vegetable oil prices were stable during the crop year 1971/72 (Table 11). Meal prices also did not show much change until towards the end of the year, when they started to increase due to a tighter supply/demand situation.

During 1972/73, linseed oil prices more than doubled,

from 13 cents per pound to 33 cents in July 1973. Rapeseed oil and soybean oil prices nearly doubled. But the most startling price increases were in meals, particularly soybean meal which increased from \$125 per ton in August 1972 to \$450 in July 1973. This was largely due to strong export demand and the export embargo instituted by the United States and Canada.

Since August 1973, oil prices continued to increase, with the yearly average prices more than twice as high as in 1972/73. Meal prices, on the other hand, declined sharply during 1973/74 with soybean meal declining from \$418 in August 1973 to \$144 in July 1974. This price decline was due to decreased domestic and export demand for protein meals generally, as well as more ample stocks of soybeans and meal in exporting and importing countries.

TABLE 5

CANADIAN PRODUCTION OF FATS AND OILS

(Thousands of Pounds)

| | <u>1 9 7 0</u> | <u>1 9 7 1</u> | <u>1 9 7 2</u> | <u>1 9 7 3</u> | <u>1 9 7 4</u> |
|---|------------------|------------------|------------------|------------------|------------------|
| <u>PRIMARILY EDIBLE^{1/}</u> <u>VEGETABLE OILS</u> | | | | | |
| Soybean Oil ^{2/} | 253,750 | 245,952 | 227,851 | 201,547 | 269,882 |
| Rapeseed Oil ^{3/} | 154,273 | 191,307 | 253,997 | 318,743 | 248,842 |
| Sunflowerseed Oil ^{4/} | 9,097 | 18,307 | 28,733 | 29,174 | 17,445 |
| <u>TOTAL^{5/}</u> | <u>417,120</u> | <u>455,566</u> | <u>510,621</u> | <u>549,464</u> | <u>536,169</u> |
| <u>ANIMAL FATS</u> | | | | | |
| Edible Tallow | 42,115 | 38,786 | 43,784 | 40,734 | 37,222 |
| Lard | 120,173 | 138,510 | 121,512 | 111,147 | 110,707 |
| Butter (as butter oil) ^{6/} | 272,700 | 239,842 | 243,290 | 176,580 | 194,574 |
| <u>TOTAL</u> | <u>434,988</u> | <u>417,138</u> | <u>408,586</u> | <u>328,461</u> | <u>342,503</u> |
| <u>MARINE OILS</u> | | | | | |
| Herring | 51,900 | 47,976 | 28,296 | 25,866 | 15,703 |
| Seal | 3,500 | 2,681 | 3,320 | - | - |
| Whale ^{7/} | 8,400 | 5,712 | 6,040 | 625 | - |
| Other ^{8/} | - | - | - | - | 944 |
| <u>TOTAL^{9/}</u> | <u>63,800</u> | <u>56,369</u> | <u>37,656</u> | <u>26,491</u> | <u>16,647</u> |
| <u>TOTAL EDIBLE OIL</u> <u>PRODUCTION</u> | <u>915,908</u> | <u>929,073</u> | <u>956,863</u> | <u>904,416</u> | <u>895,319</u> |
| <u>PRIMARILY INEDIBLE</u> | | | | | |
| Linseed Oil ^{10/} | 55,242 | 57,191 | 61,536 | 29,923 | x ^{11/} |
| Inedible Tallow | 354,245 | 401,266 | 404,970 | 410,063 | 402,840 |
| Marine Oils ^{12/} | 8,700 | 10,071 | 7,582 | 2,040 | 6,327 |
| <u>TOTAL INEDIBLE OILS</u> <u>PRODUCTION</u> | <u>418,187</u> | <u>468,528</u> | <u>474,088</u> | <u>442,026</u> | <u>409,167</u> |
| <u>TOTAL EDIBLE AND INEDIBLE</u> <u>FATS AND OILS PRODUCTION</u> (Excluding Linseed Oil In 1974) | <u>1,334,095</u> | <u>1,397,601</u> | <u>1,430,951</u> | <u>1,346,442</u> | <u>1,321,133</u> |

TABLE 5 (Cont'd)

- 1/ Production data for corn oil and cocoa butter are confidential and have not been included.
- 2/ Soybean oil output of Canadian crushing mills.
- 3/ Rapeseed oil output of Canadian crushing mills. Average oil yields in 1969/70 amounted to 39.5%, 39.6% in 1970/71, 38.8% in 1971/72, and to only 37.9% in 1972/73.
- 4/ Sunflowerseed oil output of Canadian crushing mills.
- 5/ Includes only crude vegetable oils produced in Canadian mills.
- 6/ Butter oil represents the oil equivalent of creamery butter, farm butter and whey butter production, using 81% as the conversion factor.
- 7/ Whale oil production includes small amounts of other unspecified marine oils.
- 8/ Other oil production includes seal oils.
- 9/ Small quantities of salmon oil (West Coast) and of redfish oil (East Coast) of edible grade cannot be identified statistically and are included under "Marine Oils" in the inedible category below.
- 10/ Linseed oil output of Canadian crushing plants. Average oil yield amounted to 33.9% in 1971/72 and to 34.0% in 1972/73.
- 11/ Confidential - to meet secrecy requirements of Statistics Act.
- 12/ Includes liver oils, groundfish oil, salmon oil and small amounts of unspecified oils.

SOURCE: Statistics Canada, Catalogue Nos. 22-006, 23-001, 24-002, 32-002
32-020.

TABLE 6

CANADIAN IMPORTS OF FATS AND OILS

(Thousands of Pounds)

PRIMARILY EDIBLE

| | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|---|----------------|----------------|----------------|----------------|----------------|
| <u>VEGETABLE OILS</u> | | | | | |
| Soybeans (Oil Equi.) | 172,634 | 165,707 | 120,020 | 90,448 | 152,490 |
| Soybean Oil | 50,918 | 50,967 | 37,506 | 41,824 | 74,106 |
| Cottonseed Oil | 30,767 | 22,915 | 22,467 | 18,525 | 24,986 |
| Corn Oil | 16,328 | 17,680 | 18,032 | 14,560 | 22,836 |
| Peanut Oil | 19,472 | 11,760 | 16,313 | 16,276 | 12,168 |
| Coconut Oil | 47,338 | 45,516 | 71,199 | 46,956 | 48,405 |
| Palm Oil | 26,728 | 28,358 | 68,038 | 43,166 | 35,713 |
| Palm Kernel Oil | 11,380 | 10,810 | 12,676 | 13,104 | 9,648 |
| Olive Oil | 4,688 | 4,793 | 6,401 | 4,603 | 5,310 |
| Cocoa Butter | 13,263 | 14,586 | 13,889 | 14,541 | 11,858 |
| Sunflowerseed Oil | 12,018 | 5,179 | 4,246 | 171 | 411 |
| Veg. Oils & Fats | 3,419 | 2,715 | 3,889 | 9,930 | 13,169 |
| Veg. Cooking Fats & Packaged Salad Oils | 1,163 | 841 | 1,202 | 2,274 | 3,222 |
| Margarine & Shortening Oils | 3,971 | 6,132 | 11,318 | 3,193 | 26,419 |
| Total ^{1/} | <u>414,087</u> | <u>387,959</u> | <u>407,196</u> | <u>319,571</u> | <u>440,741</u> |

ANIMAL FATS

| | | | | | |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| Lard | 20,811 | 13,415 | 21,568 | 15,786 | 38,979 |
| Butter ^{2/} | 1,570 | 2,498 | 7,160 | 50,735 | 43,550 |
| Total | <u>22,381</u> | <u>15,913</u> | <u>28,728</u> | <u>66,521</u> | <u>82,529</u> |

MARINE OILS

| | | | | | |
|-------------------|--------------|--------------|--------------|--------------|--------------|
| Fish & Marine Oil | 3,671 | 3,441 | 3,641 | 2,732 | 1,872 |
| Total | <u>3,671</u> | <u>3,441</u> | <u>3,641</u> | <u>2,732</u> | <u>1,872</u> |

TOTAL EDIBLE OILS & FATS

| | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | <u>440,139</u> | <u>407,313</u> | <u>439,565</u> | <u>388,824</u> | <u>525,142</u> |
|--|----------------|----------------|----------------|----------------|----------------|

PRIMARILY INEDIBLE

| | | | | | |
|-------------------------------|--------|--------|--------|-------|-------|
| Castor Oil | 6,466 | 5,780 | 4,785 | 6,147 | 4,079 |
| Tung Oil | 1,707 | 1,947 | 2,258 | 2,739 | 937 |
| Inedible Tallow ^{3/} | 21,815 | 21,022 | 18,533 | 6,128 | 7,736 |
| Animal Oils & Fats | 1,004 | 775 | 2,532 | 1,048 | 1,783 |
| Animal Grease ^{4/} | 4,483 | 3,159 | 2,531 | 5,549 | 5,760 |

TOTAL INEDIBLE OILS & FATS

| | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| | <u>35,475</u> | <u>32,683</u> | <u>30,639</u> | <u>21,611</u> | <u>20,295</u> |
|--|---------------|---------------|---------------|---------------|---------------|

TOTAL EDIBLE & INEDIBLE FATS & OILS IMPORTS

| | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | <u>475,614</u> | <u>439,996</u> | <u>470,204</u> | <u>410,435</u> | <u>545,437</u> |
|--|----------------|----------------|----------------|----------------|----------------|

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 6FOOTNOTES TO CANADIAN IMPORTS OF FATS AND OILS

- 1/ Vegetable oil total includes the oil equivalent of the imported soybeans. This is justified because the soybeans are crushed in Canada for oil and meal production.
- 2/ Butter imports have been converted to oil equivalent, using the factor of 81%
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ This category includes Animal Grease, N.E.S. and Wool Grease and Lanolin.

TABLE 7

CANADIAN EXPORTS OF FATS AND OILS

(Thousands of Pounds)

PRIMARILY EDIBLE

| | <u>1 9 7 0</u> | <u>1 9 7 1</u> | <u>1 9 7 2</u> | <u>1 9 7 3</u> | <u>1 9 7 4</u> |
|------------------------------|----------------|------------------|------------------|------------------|----------------|
| <u>VEGETABLE OILS</u> | | | | | |
| Soybeans (Oil Equiv.) | 11,151 | 13,281 | 16,170 | 10,519 | 11,098 |
| Soybean Oil | 47,097 | 97,509 | 69,015 | 7,408 | 17,964 |
| Rapeseed (Oil Equiv.) | 560,604 | 1,015,071 | 950,000 | 1,052,639 | 543,200 |
| Rapeseed Oil | - | - | - | 76,732 | 60,999 |
| Sunflowerseed Oil Equiv.) | 2,303 | 10,165 | 21,400 | 27,467 | 18,667 |
| Margarine & Shortening | 230 | 818 | 521 | 324 | 777 |
| Vegetable Oil & Fats | 20,182 | 11,462 | 20,072 | 29,217 | 1,683 |
| Total ^{1/} | <u>641,567</u> | <u>1,148,306</u> | <u>1,077,178</u> | <u>1,204,306</u> | <u>654,388</u> |

ANIMAL FATS

| | | | | | |
|-----------------------------------|----------|--------------|-----------|----------|----------|
| Butter (Oil Equiv.) ^{2/} | 5 | 3,630 | 18 | 5 | 7 |
| Total | <u>5</u> | <u>3,630</u> | <u>18</u> | <u>5</u> | <u>7</u> |

MARINE OILS

| | | | | | |
|-------------|---------------|---------------|---------------|--------------|---------------|
| Herring Oil | 37,190 | 11,584 | 7,546 | 6,247 | 12,180 |
| Whale Oil | 1,912 | 6,381 | 4,845 | 2,777 | - |
| Total | <u>39,102</u> | <u>17,965</u> | <u>12,391</u> | <u>9,024</u> | <u>12,180</u> |

TOTAL EDIBLE FATS & OILS
(Including Oil Equiv. of Oilseeds)

| | | | | | |
|--|----------------|------------------|------------------|------------------|----------------|
| | <u>680,674</u> | <u>1,169,901</u> | <u>1,089,587</u> | <u>1,213,330</u> | <u>666,575</u> |
|--|----------------|------------------|------------------|------------------|----------------|

PRIMARILY INEDIBLE

| | | | | | |
|---------------------------|---------|---------|---------|---------|---------|
| Flaxseed (Oil Equiv.) | 385,650 | 488,624 | 464,000 | 338,088 | 273,959 |
| Linseed Oil | 27,713 | 24,270 | 35,546 | 13,404 | 1,306 |
| Inedible Tallow | 179,348 | 218,906 | 229,565 | 180,615 | 217,682 |
| Marine Oils ^{3/} | 6,059 | 6,590 | 3,686 | 5,916 | 5,155 |
| Animal Fats and Oils | 14,347 | 9,575 | 7,261 | 11,280 | 5,994 |

TOTAL INEDIBLE FATS & OILS

| | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | <u>613,117</u> | <u>747,965</u> | <u>740,058</u> | <u>549,303</u> | <u>504,096</u> |
|--|----------------|----------------|----------------|----------------|----------------|

TOTAL EDIBLE & INEDIBLE
FATS AND OILS

| | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|
| | <u>1,293,791</u> | <u>1,917,866</u> | <u>1,829,645</u> | <u>1,762,633</u> | <u>1,170,671</u> |
|--|------------------|------------------|------------------|------------------|------------------|

SOURCE: Statistics Canada, Catalogue No.65-004

TABLE 7FOOTNOTES TO CANADIAN EXPORTS OF FATS AND OILS

- 1/ The margarine portion cannot be separated, consequently it was not converted to fat equivalent. Oil equivalent of oilseeds are included in all Totals. It is justified to include the oil equivalents of exported oilseeds into the total of fats and oil exports, since it represents a form of oil export and does not involve a duplication of data. Starting in 1973 rapeseed oil exports are reported separately and are no longer included under "Vegetable Oils and Fats".
- 2/ Butter exports have been converted to oil equivalent, using the factor of 81%.
- 3/ Marine oil exports listed under "Inedible Oils" include sun-rotted cod liver oil, a non-specified group of fish and marine oil, and fish liver and visceral oils. While most of these oils can be assumed to be of an inedible grade, a small quantity of edible oil may have been included.

TABLE 8

CANADIAN OILSEEDS: ACREAGE, YIELD, PRODUCTION

| | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|---------------|----------------------|-------------|-------------|-------------|---------------------------|-------------|-------------|-------------|
| | (Thousands of Acres) | | | | (Yield Per Acre, Bushels) | | | |
| Flaxseed | 1,768 | 1,321 | 1,450 | 1,500 | 12.7 | 13.3 | 13.4 | 9.5 |
| Rapeseed | 5,306 | 3,270 | 3,150 | 3,260 | 17.9 | 17.5 | 16.9 | 16.2 |
| Soybeans | 367 | 405 | 470 | 445 | 28.0 | 34.0 | 31.0 | 24.8 |
| Mustardseed | 206 | 180 | 335 | 350 | 900 | 842 | 782 | 743 |
| Sunflowerseed | 239 | 217 | 129 | 30 | 706 | 783 | 705 | 867 |

| | <u>Production</u> | | | | <u>Oil Equivalent</u> | | | |
|----------|------------------------|--------|--------|--------|-----------------------|-------|-------|-------|
| | (Thousands of Bushels) | | | | (Millions of Pounds) | | | |
| Flaxseed | 22,321 | 17,617 | 19,400 | 14,300 | 442 | 350 | 385 | 283 |
| Rapeseed | 95,000 | 57,300 | 53,200 | 52,900 | 1,900 | 1,147 | 1,064 | 1,058 |
| Soybeans | 10,276 | 13,770 | 14,570 | 11,040 | 109 | 146 | 155 | 117 |

| | (Thousands of Pounds) | | | | | | | |
|---------------|-----------------------|---------|---------|---------|----|----|----|----|
| Mustardseed | 185,600 | 151,500 | 262,000 | 260,000 | - | - | - | - |
| Sunflowerseed | 169,070 | 170,000 | 90,900 | 26,000 | 68 | 68 | 36 | 10 |

Oil Conversion Factors: Flaxseed 35.4%
 Rapeseed 40.0%
 Soybeans 17.7%
 Sunflowerseed 40.0%
 Mustardseed Oil Content Varies with Variety.

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 9

CANADIAN OILSEED PRODUCTION BY PROVINCE

| | A R E A | | | YIELD PER ACRE | | | P R O D U C T I O N | | |
|----------------------|----------------------|-------|-------|----------------|------|------|------------------------|---------|---------|
| | 1972 | 1973 | 1974 | 1972 | 1973 | 1974 | 1972 | 1973 | 1974 |
| <u>FLAXSEED</u> | (Thousands of Acres) | | | (Bushels) | | | (Thousands of Bushels) | | |
| Ontario | 1 | - | - | 17.0 | - | - | 17 | - | - |
| Manitoba | 500 | 600 | 750 | 11.8 | 12.7 | 9.5 | 5,900 | 7,600 | 7,100 |
| Saskatchewan | 650 | 650 | 550 | 13.8 | 13.7 | 8.5 | 9,000 | 8,900 | 4,700 |
| Alberta | - | 200 | 200 | - | 14.5 | 12.5 | - | 2,900 | 2,500 |
| <u>RAPESEED</u> | | | | | | | | | |
| Manitoba | 470 | 400 | 500 | 18.1 | 19.2 | 17.0 | 8,500 | 7,700 | 8,500 |
| Saskatchewan | 1,500 | 1,450 | 1,500 | 16.5 | 16.6 | 16.0 | 24,800 | 24,000 | 24,000 |
| Alberta | 1,300 | 1,300 | 1,200 | 18.5 | 16.5 | 16.2 | 24,000 | 21,500 | 19,500 |
| British Columbia | - | - | 60 | - | - | 15.0 | - | - | 900 |
| <u>SOYBEANS</u> | | | | | | | | | |
| Ontario | 405 | 470 | 445 | 34.0 | 31.0 | 24.8 | 13,770 | 14,500 | 11,000 |
| <u>SUNFLOWERSEED</u> | | | | | | | | | |
| | | | | (Pounds) | | | (Thousands of Pounds) | | |
| Manitoba | 190 | 125 | 30 | 800 | 700 | 867 | 152,000 | 87,500 | 26,000 |
| Saskatchewan | 23 | 2.5 | - | 652 | 800 | - | 15,000 | 2,000 | - |
| Alberta | 4 | 1.5 | - | 750 | 933 | - | 3,000 | 1,400 | - |
| <u>MUSTARD SEED</u> | | | | | | | | | |
| Manitoba | 15 | 40 | 40 | 833 | 800 | 750 | 12,500 | 32,000 | 30,000 |
| Saskatchewan | 140 | 225 | 200 | 821 | 800 | 750 | 115,000 | 180,000 | 150,000 |
| Alberta | 25 | 70 | 110 | 960 | 714 | 727 | 24,000 | 50,000 | 80,000 |

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 10

CANADIAN CRUSHINGS OF VEGETABLE OILSEEDS AND

PRODUCTION OF OIL AND MEAL

(Crop Year)

| <u>CRUSHINGS</u> ^{1/} | <u>1969/70</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> |
|--------------------------------------|----------------|----------------|----------------|----------------|-----------------|
| Flaxseed | 2.5 | 2.8 | 3.1 | 2.6 | X ^{2/} |
| Rapeseed | 7.8 | 8.6 | 12.0 | 15.6 | 14.7 |
| Soybeans | 23.7 | 23.4 | 23.3 | 22.5 | 23.6 |
| Sunflowerseed | 0.7 | 1.1 | 2.3 | 2.3 | 2.1 |
| T O T A L | <u>34.7</u> | <u>35.9</u> | <u>40.7</u> | <u>43.0</u> | <u>-</u> |
| <u>OIL PRODUCTION</u> ^{3/} | | | | | |
| Flaxseed | 48 | 55 | 59 | 50 | X ^{2/} |
| Rapeseed | 153 | 170 | 234 | 295 | 277 |
| Soybeans | 241 | 242 | 241 | 219 | 241 |
| Sunflowerseed | 8.6 | 12.6 | 29 | 29 | 25 |
| T O T A L | <u>450.6</u> | <u>479.6</u> | <u>563</u> | <u>593</u> | <u>-</u> |
| <u>MEAL PRODUCTION</u> ^{3/} | | | | | |
| Flaxseed | 87 | 100 | 110 | 93 | X ^{2/} |
| Rapeseed | 228 | 249 | 359 | 450 | 427 |
| Soybeans | 1,117 | 1,098 | 1,089 | 1,065 | 1,110 |
| Sunflowerseed | 8.6 | 12 | 26 | 26 | 23 |
| T O T A L | <u>1,440.6</u> | <u>1,459</u> | <u>1,584</u> | <u>1,634</u> | <u>-</u> |

^{1/} Millions of bushels.^{2/} Confidential - to meet secrecy requirements of the Statistics Act.^{3/} Millions of pounds.SOURCE: Statistics Canada, Catalogue No. 22-006

TABLE 11

MONTHLY PRICES OF OILS^{1/} AND MEALS CROP YEARS 1971/72 - 1973/74

| Year & Month | Linseed Oil | Rapeseed Oil | Soybean Oil | Linseed Meal ^{2/} | Rapeseed Meal ^{1/} | Soybean Meal ^{1/} |
|----------------|-------------------|-----------------|----------------|-------------------------------|--------------------------------|-------------------------------|
| 1971/72 | (Cents per Pound) | | | (Dollars per Ton) | | |
| August | 10.61 | 14.74 | 16.68 | 119.40 | 67.18 | 104.76 |
| September | 10.11 | 13.14 | 15.18 | 119.80 | 59.39 | 99.90 |
| October | 10.75 | 13.81 | 16.17 | 120.60 | 59.65 | 99.52 |
| November | 10.40 | 13.49 | 14.51 | 119.60 | 54.26 | 98.78 |
| December | 10.51 | 12.60 | 13.89 | 119.80 | 50.05 | 101.15 |
| January | 11.15 | 11.98 | 13.06 | 119.00 | 51.19 | 106.38 |
| February | 11.40 | 12.55 | 13.26 | 120.80 | 51.40 | 106.78 |
| March | 11.97 | 12.72 | 13.69 | 121.00 | 52.52 | 115.25 |
| April | 12.36 | 12.63 | 13.70 | 122.40 | 53.22 | 118.08 |
| May | 11.65 | 11.86 | 12.75 | 122.60 | 52.67 | 119.45 |
| June | 11.93 | 11.52 | 12.15 | 122.20 | 53.21 | 118.82 |
| July | 12.47 | 10.98 | 11.40 | 122.00 | 58.21 | 124.95 |
| Yearly Average | 11.28 | 12.67 | 13.87 | 120.77 | 55.25 | 109.48 |
| 1972/73 | | | | | | |
| August | 12.90 | 10.21 | 11.25 | 122.40 | 56.97 | 124.95 |
| September | 13.47 | 9.88 | 10.57 | 123.20 | 60.25 | 134.41 |
| October | 13.73 | 9.09 | 9.89 | 123.60 | 62.47 | 132.20 |
| November | 13.26 | 9.38 | 10.29 | 124.80 | 77.73 | 146.18 |
| December | 14.70 | 9.16 | 10.44 | 128.00 | 94.37 | 203.25 |
| January | 16.42 | 9.93 | 10.79 | 142.60 | 97.59 | 201.25 |
| February | 22.01 | 10.99 | 15.19 | 158.40 | 109.65 | 249.00 |
| March | 16.70 | 11.79 | 14.70 | 172.40 | 121.73 | 232.75 |
| April | 17.45 | 12.24 | 15.61 | 180.80 | 128.78 | 244.25 |
| May | 20.43 | 13.34 | 17.89 | 188.60 | 147.87 | 337.00 |
| June | 28.92 | 18.42 | 19.75 | 200.80 | 185.67 | 417.33 |
| July | 32.72 | 16.60 | 21.45 | 223.80 | 201.10 | 449.33 |
| Yearly Average | 18.56 | 11.75 | 13.98 | 157.45 | 112.02 | 239.32 |
| 1973/74 | | | | | | |
| August | 38.92 | 23.70 | 37.89 | 244.60 | 185.19 | 418.00 |
| September | 31.43 | 20.73 | 25.34 | 255.80 | 133.02 | 215.33 |
| October | 31.40 | 22.05 | 24.91 | 252.80 | 117.72 | 214.12 |
| November | 39.75 | 20.46 | 22.46 | 235.60 | 111.53 | 189.25 |
| December | 43.04 | 24.28 | 26.02 | 237.40 | 121.00 | 218.50 |
| January | 49.81 | 25.13 | 28.00 | X | 115.77 | 211.13 |
| February | 54.06 | 33.70 | 38.80 | X | 116.53 | 186.75 |
| March | 51.24 | 28.20 | 34.30 | X | 95.63 | 173.50 |
| April | 47.06 | 30.90 | 31.10 | X | 81.50 | 157.30 |
| May | 49.75 | 30.90 | 34.20 | X | 86.14 | 142.25 |
| June | 51.72 | 31.50 | 35.20 | X | 83.67 | 129.45 |
| July | 56.27 | 35.70 | 42.00 | X | 98.04 | 144.25 |
| Yearly Average | 45.37 | 27.27 | 31.68 | X | 112.14 | 199.99 |

TABLE 11FOOTNOTES FOR MONTHLY PRICES OF OILS AND MEALS CROP YEARS 1971/72 - 1973/74

1/ Average wholesale prices paid to crushers by processors and manufacturers.

2/ Average retail prices to farmers.

X Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 4

THE CANADIAN RAPESEED SITUATION

Rapeseed

Rapeseed acreage and production reached a peak of 5.4 million acres (Table 13) and 95 million bushels (Table 12) during the crop year 1971/72, mainly because of the more attractive market situation for rapeseed compared with cereal grains. Since 1971, rapeseed acreage has stabilized at just over 3 million acres and production at slightly more than 50 million bushels per year. It would appear that future rapeseed production increases will derive more from increased yields than from increased acreage, due to relatively strong cereal prices, and a grower preference for cereal production.

Rapeseed processing capacity increased gradually during the period 1970-1975 to reach 2,200 tons per day. A potential doubling of capacity is predicted by the end of 1976, to the vicinity of 4,500 tons per day, due to the construction of at least three new plants and the expansion of one existing facility. The end result will be increased demand for available supplies of rapeseed in Canada, and increased supplies of rapeseed oil and meal for export.

The conversion to low-erucic types of rapeseed is now virtually completed, with 94% of the 1974 acreage devoted to LEAR varieties. High erucic types for industrial use, including R-500 (50% erucic acid), will be produced under contract and thus kept segregated from LEAR varieties throughout the handling and processing system.

Rapeseed Oil

Rapeseed oil production has increased over the past five years as Canadian processing capacity expanded. The domestic oil market now absorbs about 225 million pounds per year of rapeseed oil, which is approximately the same as for soybean oil. Exports of rapeseed oil were not listed separately by Statistics Canada prior to January 1, 1973, however, exports are increasing in line with availability, and in 1973/74 exports accounted for about 25 percent of rapeseed oil production in Canada (Table 15).

It is expected that the domestic market will not absorb much more than 250 to 275 million pounds of rapeseed oil

per year. Consequently, exports are expected to increase quite rapidly, although considerable market development and promotion will be required to move this oil into the export market in competition with increased supplies of U.S. and Brazilian soybean oil, Malaysian and African palm oil, as well as groundnut and coconut oils from a number of countries.

Rapeseed Meal

Rapeseed meal production has increased in line with the growth in processing capacity during 1970 - 75. It is felt that additional quantities of rapeseed meal can be utilized domestically, especially with the low-glucosinolate type of rapeseed now available (Tower). Rapeseed meal is expected to continue to replace soybean meal especially if the protein level can be raised from 36% to approximately 45% by means of hull and fibre removal and the production of thin-hulled varieties of rapeseed.

Rapeseed meal exports are increasing gradually, in spite of a degree of discrimination which exists vis-a-vis soybean meal (Table 16). It is felt that market development activity can be utilized to overcome some prejudices and result in increased exports of rapeseed meal. For the near future, however, the domestic market probably offers the most potential for expansion of rapeseed meal utilization.

TABLE 12CANADIAN SUPPLY AND DISPOSITION OF RAPESEED,RAPESEED OIL AND RAPESEED MEAL

(Crop Year)

| | <u>1970-71</u> | <u>1971-72</u> | <u>1972-73</u> | <u>1973-74</u> |
|----------------------|------------------------|----------------|----------------|----------------|
| <u>Rapeseed</u> | (Thousands of Bushels) | | | |
| Stocks, Starting | 3,683 | 11,029 | 43,139 | 20,678 |
| Production | 72,200 | 95,000 | 57,300 | 53,200 |
| Exports | 46,811 | 42,603 | 54,059 | 39,183 |
| Domestic Crashings | 8,575 | 12,050 | 15,572 | 14,745 |
| <u>Rapeseed Oil</u> | (Thousands of Pounds) | | | |
| Exports | - | - | 55,078 | 76,033 |
| Domestic Production | 169,892 | 234,286 | 295,342 | 276,968 |
| <u>Rapeseed Meal</u> | | | | |
| Exports | - | - | 21,443 | 52,448 |
| Domestic Production | 124,381 | 179,265 | 225,056 | 213,772 |

SOURCE: Statistics Canada, Catalogue No. 22-006

TABLE 13

SUMMERFALLOW AND STUBBLE CULTIVATION
RAPESEED AND FLAXSEED

| | R A P E S E E D | | | F L A X S E E D | | |
|--|-------------------|---------|-------|-------------------|---------|-------|
| | Summer- fallow | Stubble | Total | Summer- fallow | Stubble | Total |
| <u>Seeded Area</u> | ('000 Acres) | | | | | |
| 1970 | 3,445 | 605 | 4,050 | 2,368 | 982 | 3,350 |
| 1971 | 4,759 | 716 | 5,475 | 1,442 | 558 | 2,000 |
| 1972 | 2,525 | 745 | 3,270 | 746 | 574 | 1,320 |
| 1973 | 2,410 | 740 | 3,150 | 776 | 674 | 1,450 |
| 1974 | 2,287 | 913 | 3,200 | 691 | 809 | 1,500 |
| <u>Distribution</u> | (Per Cent) | | | | | |
| 1970 | 85 | 15 | 100 | 71 | 29 | 100 |
| 1971 | 87 | 13 | 100 | 72 | 28 | 100 |
| 1972 | 77 | 23 | 100 | 57 | 43 | 100 |
| 1973 | 77 | 23 | 100 | 54 | 46 | 100 |
| 1974 | 71 | 29 | 100 | 46 | 54 | 100 |
| <u>Average Yield Per Seeded Acre</u> | (Bushels) | | | | | |
| 1970 | 18.7 | 13.0 | 17.8 | 16.3 | 10.4 | 14.5 |
| 1971 | 18.7 | 13.1 | 18.0 | 13.9 | 9.9 | 12.8 |
| 1972 | 18.3 | 14.8 | 17.5 | 15.2 | 11.0 | 13.3 |
| 1973 | 17.9 | 13.5 | 16.9 | 14.6 | 12.0 | 13.4 |
| 1974 | 17.4 | 13.3 | 16.2 | 10.6 | 8.7 | 9.5 |
| <u>Production</u> | (Million Bushels) | | | | | |
| 1970 | 64.32 | 7.88 | 72.20 | 38.5 | 10.2 | 48.7 |
| 1971 | 89.12 | 9.38 | 98.50 | 20.0 | 5.5 | 25.5 |
| 1972 | 46.27 | 11.03 | 57.30 | 11.3 | 6.3 | 17.6 |
| 1973 | 43.22 | 9.98 | 53.20 | 11.3 | 8.1 | 19.4 |
| 1974 | 39.83 | 12.17 | 52.00 | 7.3 | 7.0 | 14.3 |

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 14

CANADIAN EXPORTS OF RAPESEED

(Short Tons)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Algeria | - | - | 2,150 | - | - |
| Australia | - | 49 | 12,120 | 22,723 | 16,248 |
| Bangladesh | - | - | - | 89,341 | 19,855 |
| Belgium-Luxembourg | 8,316 | 4,085 | 1,671 | 2,306 | 395 |
| Brazil | - | - | - | - | 14 |
| Czechoslovakia | 21,813 | 14,329 | - | - | - |
| Denmark | - | - | - | 5,000 | - |
| Finland | 843 | 1,999 | - | - | - |
| France | 12,492 | 181,408 | 158,038 | 18,870 | - |
| Germany, West | 57,325 | 101,580 | 30,948 | 96,971 | 25,815 |
| Hungary | - | - | <u>1/</u> | - | - |
| India | 16,072 | 88,498 | 56,485 | 56,552 | 4,984 |
| Italy | 35,580 | 100,955 | 74,955 | 94,933 | 988 |
| Japan | 370,732 | 469,923 | 648,877 | 783,733 | 544,487 |
| Korea, South | - | 2,284 | - | 26,979 | - |
| Lebanon | - | 1,157 | 4,177 | - | - |
| Mexico | 13,843 | - | 5 | 25,863 | 42,694 |
| Morocco | 17,927 | 12,731 | 16,757 | - | - |
| Netherlands | 100,775 | 224,519 | 94,864 | 68,228 | 22,796 |
| Norway | 6,074 | 11,934 | 3,574 | - | - |
| Pakistan | 32,227 | 23,394 | 57,377 | - | - |
| Peru | - | 1 | - | - | 3 |
| Romania | - | - | - | - | 1 |
| Spain | - | 50 | 68 | 1,107 | - |
| Sweden | - | 4 | 22 | 15 | <u>1/</u> |
| Taiwan | - | - | - | 19,869 | - |
| United Kingdom | 6,409 | 9,015 | 20,462 | 3,360 | 1,102 |
| United States | 161 | 9,103 | 211 | 2 | 115 |
| Total | 700,755 | 1,268,839 | 1,188,068 | 1,315,799 | 679,000 |
| Total Value (\$'000) | 79,009 | 148,211 | 125,446 | 230,150 | 199,843 |

1/ Less than one short ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 15CANADIAN EXPORTS OF RAPESEED OIL

(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> ^{1/} | <u>1971</u> ^{1/} | <u>1972</u> ^{1/} | <u>1973</u> | <u>1974</u> |
|----------------------|---------------------------|---------------------------|---------------------------|---------------|---------------|
| Australia | | | | 871 | 1,188 |
| Bangladesh | | | | 652 | - |
| Chile | | | | 24,602 | - |
| France | | | | 4 | - |
| Hong Kong | | | | 5,080 | - |
| India | | | | 11,133 | 29,184 |
| Japan | | | | 30,193 | 7,454 |
| Netherlands | | | | 29 | - |
| United Kingdom | | | | 2,594 | 2,734 |
| United States | | | | 1,568 | 18,228 |
| Zambia | | | | - | 2,209 |
| Total | | | | <u>76,731</u> | <u>60,999</u> |
| Total Value (\$'000) | | | | <u>10,223</u> | <u>14,133</u> |

^{1/} Not published prior to 1973.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 16CANADIAN EXPORTS OF RAPESEED OILCAKE AND MEAL

(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> ^{1/} | <u>1971</u> ^{1/} | <u>1972</u> ^{1/} | <u>1973</u> | <u>1974</u> |
|----------------------|---------------------------|---------------------------|---------------------------|---------------|---------------|
| Barbados | | | | 20 | 595 |
| Chile | | | | 12,125 | - |
| Cuba | | | | 44 | - |
| Germany, West | | | | 3,200 | 36 |
| Jamaica | | | | - | 8 |
| Japan | | | | 2 | - |
| Korea, South | | | | 16,750 | - |
| Mexico | | | | 6,701 | 12,812 |
| Netherlands | | | | 14,776 | 23,674 |
| Philippines | | | | 8,181 | 1,344 |
| United Kingdom | | | | 25,610 | 16,800 |
| United States | | | | 3,546 | 12,876 |
| Total | | | | <u>90,957</u> | <u>68,148</u> |
| Total Value (\$'000) | | | | <u>6,198</u> | <u>3,218</u> |

^{1/} Not published prior to 1973.SOURCE: Statistics Canada, Catalogue No. 65-004.

QUALITY DATA FOR WESTERN CANADIAN RAPESEED,

SURVEY SAMPLES OF 1973 AND 1974 CROPS

1973 SURVEY

1974 SURVEY

| | Oil 1/ Content | Erucic Acid Content | Protein ^{2/} Content | No. of Samples | Oil 1/ Content | Erucic Acid Content | Protein ^{2/} Content | No. of samples |
|--|----------------------|---------------------------|----------------------------------|-------------------|----------------------|---------------------------|----------------------------------|-------------------|
|--|----------------------|---------------------------|----------------------------------|-------------------|----------------------|---------------------------|----------------------------------|-------------------|

WESTERN CANADA

No. 1 CRS
No. 2 CRS
No. 3 CRS
All Grades

39.0
38.4
41.3
39.0

6.9
6.9
4.3
6.9

35.4
36.1
35.0
35.5

434
28
1
464

40.5
43.0
42.7
40.8

35.7
36.6
34.7
35.6

387
74
14
486

ALL GRADES BY PROVINCE

Manitoba
Saskatchewan
Alberta

39.3
38.6
39.4

3.4
6.4
8.9

34.5
36.3
34.8

70
213
181

40.8
40.8
40.9

36.8
36.4
34.1

78
327
171

1/ Oil content of seed is reported on an 8.5% moisture basis.

2/ Protein content is reported on the oil-free meal and an 8.5% moisture basis.

SOURCE: Canadian Grain Commission, Crop Bulletins No. 121 and 125.

TABLE 18CANADIAN RAPESEED PRICES

(Crop Year)

| <u>MONTH</u> | <u>1969/70</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> |
|----------------|-------------------------------|----------------|----------------|----------------|----------------|
| | (Cents and Eights per Bushel) | | | | |
| August | 204/5 | 267/3 | 273/7 | 244/7 | 649/7 |
| September | 220/6 | 240/6 | 248/2 | 253/3 | 536/4 |
| October | 262/7 | 255/7 | 255/4 | 256/1 | 493/7 |
| November | 282/3 | 259 | 250/2 | 260/5 | 482/5 |
| December | 285/5 | 269/2 | 238/3 | 295/5 | 566/6 |
| January | 330/2 | 281/3 | 228 | 325/6 | 655/1 |
| February | 313/6 | 302 | 231/4 | 374/4 | 706/1 |
| March | 271/5 | 291/4 | 247/2 | 361 | 677/7 |
| April | 279/1 | 302/3 | 269/5 | 376/2 | 608/7 |
| May | 291/3 | 274 | 248 | 399/1 | 702/1 |
| June | 303/5 | 290/4 | 234/7 | 537/7 | 738/6 |
| July | 283/5 | 296/7 | 239/3 | 682/4 | 796 |
| Yearly Average | <u>277</u> | <u>278/1</u> | <u>247/1</u> | <u>364</u> | <u>634/4</u> |

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 5

THE CANADIAN SOYBEAN SITUATION

Soybean

Soybean production in Canada is confined mainly to Southwestern Ontario where competition for acreage from other crops is quite intense. There has been some expansion of acreage and production during the period 1970 - 75, mainly at the expense of such crops as oats and tame hay. Acreage peaked at 470,000 in 1973, which was also a year of exceptionally high yields averaging 31 bushels per acre. Soybean prices were at record high levels during 1973 and 1974 which was largely responsible for the increased acreage (Table 25). Even with this increased production, Canada imports about one-half of the supply needed for processing. This situation is expected to continue until attempts to produce soybeans in other provinces are successful.

Pricing is closely tied to the Chicago Commodity Exchange.

Soybean Oil

Soybeans are processed on a regular basis in four plants in Canada, three in the Toronto-Hamilton area and one in Manitoba. The oil is the secondary product obtained along with rapeseed oil, is one of the principal edible oils used in Canada. Imports of soybean oil have increased recently and account for about 30 percent of domestic utilization (Table 20).

Soybean Meal

Soybean meal continues to be the preferred protein meal for livestock and poultry feeding in Canada. Domestic production has stabilized at slightly over 500,000 tons per year. Additional quantities are imported from the United States to supplement Canadian production. Prices for soybean meal reached record levels of \$450.00 per ton in July 1973 but have now dropped to approximately \$125.00 per ton.

Soybean meal exports have declined because of the loss of British Preferential tariff treatment in the United Kingdom market (Table 24). Canadian soybean meal now competes on an equal footing with United States soybean meal.

TABLE 19

CANADIAN SUPPLY AND DISPOSITION OF SOYBEANS,
SOYBEAN OIL AND SOYBEAN MEAL
 (Crop Year)

| | <u>1970-71</u> | <u>1971-72</u> | <u>1972-73</u> | <u>1973-74</u> |
|---------------------|----------------|------------------------|----------------|----------------|
| <u>Soybeans</u> | | (Thousands of Bushels) | | |
| Production | 10,385 | 10,276 | 13,770 | 14,570 |
| Imports | 15,703 | 14,774 | 10,973 | 12,506 |
| Exports | 768 | 1,366 | 1,062 | 1,061 |
| Domestic Crushings | 23,437 | 23,314 | 22,507 | 23,601 |
| <u>Soybean Oil</u> | | (Thousands of Pounds) | | |
| Imports | 53,001 | 43,032 | 36,286 | 73,624 |
| Exports | 68,078 | 101,695 | 27,662 | 10,897 |
| Domestic Production | 242,325 | 241,259 | 218,531 | 240,675 |
| <u>Soybean Meal</u> | | (Tons) | | |
| Imports | 249,875 | 228,895 | 242,369 | 256,812 |
| Exports | 132,033 | 135,815 | 130,147 | 103,714 |
| Domestic Production | 549,175 | 544,351 | 532,382 | 554,864 |

SOURCE: Statistics Canada, Catalogue No. 22-006

TABLE 20CANADIAN IMPORTS OF SOYBEAN AND SOYBEAN OILSOYBEANS

(Short Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| Germany, West | - | - | - | - | 2 |
| Hong Kong | 9 | 29 | 5 | 14 | <u>1/</u> |
| Japan | - | - | - | 2 | 3 |
| Peoples Republic of China | - | 33 | 6 | 23 | 22 |
| Switzerland | 24 | - | - | - | - |
| United Kingdom | - | - | - | <u>1/</u> | - |
| United States | 487,635 | 468,037 | 340,032 | 255,461 | 430,737 |
| Total | 487,668 | 468,099 | 340,043 | 255,500 | 430,765 |
| Total Value (\$'000) | 46,967 | 49,639 | 39,108 | 50,360 | 90,505 |

1/ Less than one (1) Short Ton.SOYBEAN OIL

(CWT)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| France | | - | 3 | - | 8 |
| Germany, West | 22 | - | - | - | - |
| United States | 509,155 | 509,666 | 375,054 | 418,235 | 741,058 |
| Total | 509,177 | 509,666 | 375,057 | 418,235 | 741,066 |
| Total Value (\$'000) | 6,604 | 7,217 | 4,708 | 8,264 | 24,829 |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 21

IMPORTS OF SOYBEAN OIL BY PROVINCE

(Calendar Year)

| | 1 9 7 0 | | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | |
|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | - | - |
| Nova Scotia | - | - | - | - | - | - | 87 | 17 | - | - |
| P.E.I. | - | - | 303 | 47 | - | - | - | - | - | - |
| New Brunswick | 6,257 | 772 | 10,388 | 1,411 | 5,103 | 674 | 2,090 | 393 | 3,013 | 1,033 |
| Quebec | 12,328 | 1,496 | 1,684 | 226 | 329 | 50 | 1,926 | 446 | 13,001 | 3,871 |
| Ontario | 25,668 | 3,458 | 34,065 | 4,850 | 26,593 | 3,254 | 25,961 | 5,114 | 37,288 | 13,143 |
| Manitoba | 1,750 | 207 | 122 | 16 | 153 | 14 | 5,156 | 993 | 9,828 | 3,184 |
| Saskatchewan | - | - | - | - | - | - | - | - | 210 | 73 |
| Alberta | - | - | - | - | - | - | 359 | 72 | 2,139 | 599 |
| British Columbia | 4,912 | 668 | 4,401 | 663 | 5,326 | 714 | 6,240 | 1,225 | 8,625 | 2,922 |
| Yukon | - | - | - | - | - | - | - | - | - | - |
| Total | 50,915 | 6,601 | 50,963 | 7,213 | 37,504 | 4,706 | 41,819 | 8,260 | 74,104 | 24,825 |

TABLE 22

IMPORTS OF SOYBEAN MEAL BY PROVINCE

(Calendar Year)

| | 1 9 7 0 | | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | |
|---------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | - | - |
| Nova Scotia | - | - | 6,818 | 315 | 3,388 | 185 | 6,800 | 477 | 293 | 29 |
| P.E.I. | - | - | - | - | - | - | - | - | - | - |
| New Brunswick | 40 | 10 | - | - | - | - | 80 | 4 | 160 | 13 |
| Quebec | 128,341 | 7,319 | 98,907 | 5,486 | 111,360 | 6,232 | 80,952 | 5,312 | 144,784 | 10,399 |
| Ontario | 156,944 | 7,366 | 125,873 | 5,797 | 120,899 | 7,247 | 105,554 | 14,048 | 127,215 | 10,897 |
| Manitoba | 116,207 | 5,187 | 88,342 | 3,804 | 105,136 | 5,188 | 102,364 | 11,245 | 171,883 | 14,627 |
| Saskatchewan | 7,207 | 314 | 14,442 | 597 | 13,292 | 662 | 36,014 | 4,383 | 43,369 | 3,975 |
| Alberta | 45,536 | 2,097 | 51,412 | 2,237 | 62,642 | 3,067 | 48,048 | 5,644 | 59,580 | 5,108 |
| B.C. | 82,437 | 3,642 | 72,279 | 3,099 | 73,021 | 3,743 | 42,020 | 5,016 | 64,357 | 5,865 |
| Total | 536,775 | 25,935 | 458,073 | 21,335 | 489,738 | 26,254 | 421,832 | 46,129 | 611,641 | 50,853 |

SOURCE: Statistics Canada, Unpublished Data

TABLE 23
CANADIAN EXPORTS OF SOYBEANS
 (Short Tons)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------|---------------|---------------|---------------|---------------|---------------|
| Belgium-Luxembourg | - | - | - | - | 2,205 |
| Bulgaria | - | - | - | 152 | - |
| France | - | - | - | - | 70 |
| Germany, West | 1,328 | 15 | - | 1 | 619 |
| Hong Kong | - | - | - | 20 | 1,055 |
| Jamaica | - | 2 | 2 | 2 | 4 |
| Japan | - | - | - | 5,626 | 4,222 |
| Leeward & Windward Is. | 1 | - | - | - | - |
| Netherlands | - | 107 | 179 | 160 | 20 |
| Surinam | - | 1 | - | - | - |
| Sweden | 689 | 937 | 746 | 925 | 1,495 |
| Switzerland | 55 | 33 | 80 | 80 | 101 |
| Trinidad & Tobago | - | 1 | - | - | - |
| United Kingdom | 29,422 | 36,398 | 44,679 | 22,441 | 4,588 |
| United States | 3 | 18 | 27 | 302 | 25 |
| U.S.S.R. | - | - | 6 | - | - |
| Total | <u>31,500</u> | <u>37,516</u> | <u>45,722</u> | <u>29,713</u> | <u>14,403</u> |
| Total Value (\$'000) | <u>3,143</u> | <u>4,063</u> | <u>5,665</u> | <u>6,151</u> | <u>3,451</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 24

CANADIAN EXPORTS OF SOYBEAN OIL AND MEAL
(Thousands of Pounds)

SOYBEAN OIL

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|--------------|---------------|
| Bahamas | | 6 | 18 | 9 | - |
| Leeward-Windward Islands | - | - | - | - | 2 |
| United Kingdom | 47,064 | 97,486 | 68,996 | 7,298 | 17,148 |
| United States | 33 | 15 | <u>1/</u> | 100 | 813 |
| Total | <u>47,097</u> | <u>97,507</u> | <u>69,014</u> | <u>7,407</u> | <u>17,964</u> |
| Total Value (\$'000) | <u>6,527</u> | <u>14,491</u> | <u>8,480</u> | <u>1,233</u> | <u>5,663</u> |

1/ Less than 1,000 lbs.

SOYBEAN MEAL

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|----------------|----------------|----------------|----------------|----------------|
| Belgium-Luxembourg | - | - | - | 14,726 | - |
| Guyana | 90 | - | 14 | - | - |
| Ireland | - | - | - | - | 8,354 |
| Trinidad-Tobago | 20 | - | - | - | - |
| United Kingdom | 331,722 | 264,981 | 191,085 | 209,230 | 224,835 |
| United States | 685 | 9 | 4,128 | 21,877 | 20,769 |
| Total | <u>332,518</u> | <u>264,990</u> | <u>195,227</u> | <u>245,833</u> | <u>253,959</u> |
| Total Value (\$'000) | <u>15,439</u> | <u>11,351</u> | <u>9,405</u> | <u>18,851</u> | <u>17,547</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 25

CANADIAN SOYBEAN PRICES ^{1/}

(Crop Year)

| <u>MONTH</u> | <u>1969/70</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|
| (Cents and Eighths per Bushel) | | | | | |
| August | 267/1 | 276/3 | 326/1 | 340/7 | 1040 |
| September | 249 | 277/6 | 304/7 | 325/6 | 605 |
| October | 245/5 | 291/4 | 308/3 | 310/5 | 557 |
| November | 246/6 | 293/1 | 299/2 | 342/2 | 553/6 |
| December | 245/3 | 286 | 299/6 | 391/7 | 583/7 |
| January | 251/4 | 294/2 | 297/2 | 428 | 606/2 |
| February | 257/5 | 296/3 | 306/6 | 567/6 | 644/1 |
| March | 262/2 | 296/4 | 325/7 | 617/5 | 610/2 |
| April | 268/1 | 286 | 338/2 | 646/4 | 534/2 |
| May | 273/5 | 295/2 | 335/5 | 882/4 | 517/1 |
| June | 279/1 | 311/5 | 330/1 | 1095/7 | 504/6 |
| July | 288/5 | 331/4 | 334/3 | 929 | 642/1 |
| Yearly Average | <u>261/2</u> | <u>294/6</u> | <u>316/7</u> | <u>573/2</u> | <u>616/4</u> |

1/ Buying prices, carlots, f.o.b. Chatham, No. 2 and better.

SOURCE: Statistics Canada, Catalogue No. 22-006

CHAPTER 6

THE CANADIAN SUNFLOWERSEED SITUATION

Sunflowerseed is produced mainly in western Canada with Manitoba producing about 95% of all sunflowerseed produced in Canada (Table 26). The acreage produced each year is dependent on the relative competitive position of the crop compared to cereals and other oilseeds such as rapeseed and mustardseed.

Acreage peaked in 1971/72 at 215,000 acres, which resulted in a production of 152,000,000 pounds. Since that year, growers have preferred cereal grains and the acreage devoted to sunflowerseed plummeted to 30,000 acres in 1974, in spite of higher contract prices.

The Canadian and export markets could absorb much larger quantities of sunflowerseed. However, present varieties can only be produced economically in a rather narrow belt near the United States border in western Canada. Thus the likelihood of sharply-increased production in the near future is small unless oil varieties suitable to a wide range of Canadian climatic conditions are developed.

The oil and meal produced from sunflowerseed are of excellent quality. There is only one crusher processing sunflowerseed in any volume, located at Altona, Manitoba. However, a program for the establishment of sunflowers as a major crop in Saskatchewan and Alberta was approved by the Canada Department of Agriculture. The research and development work is being carried out by the University of Saskatchewan in four major areas of sunflower production and utilization, i.e. agronomic, economic, agricultural engineering and by-product utilization. The program will take place in the period August 1974 to March 1978.

TABLE 26CANADIAN SUNFLOWERSEED: ACREAGE, YIELD AND PRODUCTION

(Crop Year)

| | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|---------------|--------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 65.0 | 140.0 | 190.0 | 125.0 | 30.0 |
| Saskatchewan | 3.0 | 65.0 | 23.0 | 2.5 | - |
| Alberta | 2.5 | 10.0 | 4.0 | 1.5 | - |
| Canada, Total | 70.5 | 215.0 | 217.0 | 129.0 | 30.0 |
| | (Millions of Pounds) | | | | |
| Manitoba | 52.0 | 105.0 | 152.0 | 87.5 | 26.0 |
| Saskatchewan | 2.0 | 42.3 | 15.0 | 2.0 | - |
| Alberta | 1.4 | 5.0 | 3.0 | 1.4 | - |
| Canada, Total | 55.4 | 152.3 | 170.0 | 90.9 | 26.0 |
| | (Yield Per Acre, Pounds) | | | | |
| Manitoba | 800 | 750 | 800 | 700 | 867 |
| Saskatchewan | 650 | 650 | 652 | 800 | - |
| Alberta | 560 | 500 | 750 | 933 | - |
| Canada, Total | 785 | 708 | 783 | 705 | 867 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 27CANADIAN EXPORTS OF SUNFLOWERSEED

(Short Tons)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|--------------|---------------|---------------|---------------|---------------|
| Australia | - | - | - | 1 | - |
| Bangladesh | - | - | - | 1 | 2 |
| Bermuda | - | <u>1/</u> | - | - | - |
| Czechoslovakia | - | - | - | - | 7,581 |
| France | - | - | 2,755 | 22,440 | - |
| Germany, West | 18 | 54 | 4,783 | 76 | 7,986 |
| Italy | - | - | - | 9,100 | - |
| Japan | - | 3,334 | 6,127 | - | - |
| Korea, South | - | - | - | 26 | - |
| Netherlands | - | 5,202 | 11,267 | 978 | 6,287 |
| New Zealand | <u>1/</u> | <u>1/</u> | 2 | 2 | 1 |
| Portugal | - | - | - | - | 40 |
| Spain | - | - | - | 178 | - |
| Sweden | 1 | - | 51 | 41 | 1 |
| United Kingdom | 12 | 28 | 50 | 25 | 35 |
| United States | <u>2,847</u> | <u>4,086</u> | <u>1,683</u> | <u>1,462</u> | <u>1,378</u> |
| Total | <u>2,878</u> | <u>12,704</u> | <u>26,718</u> | <u>34,330</u> | <u>23,335</u> |
| Total Value (\$'000) | <u>477</u> | <u>1,517</u> | <u>3,660</u> | <u>6,143</u> | <u>7,334</u> |

1/ Less than one (1) ton.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 28

CANADIAN IMPORTS OF SUNFLOWERSEED OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|--------------|--------------|-------------|-------------|
| Austria | 8 | 10 | 17 | 4 | 7 |
| Bulgaria | - | 154 | - | - | - |
| France | - | - | - | 1 | 6 |
| Germany, West | 4 | 8 | <u>1/</u> | - | - |
| Netherlands | 9,098 | - | 484 | - | - |
| United States | 2,908 | 5,005 | 3,744 | 165 | 394 |
| U.S.S.R. | - | - | - | - | 2 |
| Total | <u>12,018</u> | <u>5,177</u> | <u>4,245</u> | <u>170</u> | <u>411</u> |
| Total Value (\$'000) | <u>1,778</u> | <u>736</u> | <u>617</u> | <u>27</u> | <u>181</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 29

IMPORTS OF SUNFLOWERSEED OIL BY PROVINCE

(Calendar Year)

| | 1 9 7 0 | | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | |
|------------------|--------------------|--------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
| | '000 of lbs. | '000 of lbs. | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ | '000 of lbs. | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | - | - |
| Nova Scotia | - | - | - | - | - | - | - | - | - | - |
| P.E.I. | - | - | - | - | - | - | - | - | - | - |
| New Brunswick | - | - | - | - | - | - | - | - | - | - |
| Quebec | 6 | 1 | 163 | 33 | 12 | 3 | 5 | 1 | 16 | 4 |
| Ontario | 12,007 | 1,774 | 4,946 | 689 | 4,233 | 616 | 165 | 25 | 393 | 175 |
| Manitoba | - | - | - | - | - | - | - | - | - | - |
| Saskatchewan | - | - | - | - | - | - | - | - | - | - |
| Alberta | - | - | 59 | 9 | - | - | - | - | - | - |
| British Columbia | 4 | 1 | 8 | 3 | - | - | - | - | 1 | 1/ |
| Yukon | - | - | - | - | - | - | - | - | - | - |
| Total | 12,017 | 1,775 | 5,176 | 734 | 4,245 | 619 | 170 | 26 | 409 | 179 |

1/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data

CHAPTER 7

THE CANADIAN MUSTARDSEED SITUATION

Canada is a major producer and exporter of mustard-seed. Three types are grown in Canada - yellow, brown and oriental, comprising 50, 30 and 20 percent of the total mustard-seed acreage respectively.

Acreage varies considerably from year to year, depending on the returns per acre compared with other crops (Table 30). Most of the mustardseed is grown under contract to exporting companies who receive, clean and export the mustard-seed to overseas buyers.

There is considerable potential for expanded production of mustardseed in Canada, provided that the returns per acre are competitive with other crops. Some breeding work is being done at Saskatoon to develop new varieties having low erucic acid content, and low glucosinolate content.

Only a very small quantity of mustardseed is processed in Canada. A considerable quantity is exported to the United States (Table 31) and later imported as ground mustard or prepared mustard (Table 32).

Major export markets are the United States, the European Economic Community and Japan with the United States importing about 50% of all Canadian mustardseed exported.

TABLE 30CANADIAN MUSTARDSEED: ACREAGE, YIELD AND PRODUCTION

(Crop Year)

| | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|---------------|--------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 25 | 20 | 15 | 40 | 40 |
| Saskatchewan | 120 | 175 | 140 | 225 | 200 |
| Alberta | 55 | 70 | 25 | 70 | 110 |
| Canada, Total | 200 | 265 | 180 | 335 | 350 |
| | (Yield, Pounds Per Acre) | | | | |
| Manitoba | 840 | 800 | 833 | 800 | 750 |
| Saskatchewan | 985 | 950 | 821 | 800 | 750 |
| Alberta | 885 | 750 | 960 | 714 | 727 |
| Canada, Total | 940 | 886 | 842 | 782 | 743 |
| | (Millions of Pounds) | | | | |
| Manitoba | 21.0 | 16.0 | 12.5 | 32.0 | 30.0 |
| Saskatchewan | 118.2 | 166.3 | 115.0 | 180.0 | 150.0 |
| Alberta | 48.7 | 52.5 | 24.0 | 50.0 | 80.0 |
| Canada, Total | 187.9 | 234.8 | 151.5 | 262.0 | 260.0 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 31

CANADIAN EXPORTS OF MUSTARD SEED
(Short Tons)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| Argentina | 276 | 61 | 110 | - | - |
| Australia | - | - | - | - | 72 |
| Belgium-Luxembourg | 5,869 | 4,069 | 10,823 | 8,858 | 6,936 |
| Brazil | - | - | - | <u>1/</u> | 103 |
| Chile | - | - | - | - | 5 |
| Costa Rica | - | - | - | - | 5 |
| El Salvador | - | - | - | 5 | - |
| France | - | 614 | 5,933 | - | 143 |
| Germany, West | 5,948 | 10,707 | 9,538 | 12,632 | 2,387 |
| Guatemala | 11 | - | - | - | 2 |
| Israel | - | 21 | - | 28 | - |
| Japan | 9,304 | 10,363 | 6,906 | 6,779 | 8,339 |
| Leeward-Windward Is. | - | - | <u>1/</u> | - | - |
| Mexico | 125 | 220 | 167 | 195 | 310 |
| Netherlands | 10,592 | 11,519 | 11,949 | 11,895 | 19,895 |
| New Zealand | - | 1 | - | - | 2 |
| Spain | - | 1 | - | - | - |
| Sweden | - | - | - | - | 60 |
| Switzerland | - | - | 606 | 754 | 104 |
| United Kingdom | 56 | 896 | 559 | 40 | 703 |
| United States | 45,080 | 41,331 | 47,706 | 37,536 | 36,884 |
| U.S.S.R. | - | - | - | 27 | - |
| Venezuela | 11 | 11 | - | 2 | 25 |
| Total | <u>77,269</u> | <u>84,814</u> | <u>94,297</u> | <u>78,751</u> | <u>75,978</u> |
| Total Value (\$'000) | <u>7,745</u> | <u>8,124</u> | <u>9,458</u> | <u>13,812</u> | <u>21,171</u> |

1/ Less than one (1) ton.

TABLE 32CANADIAN IMPORTS OF GROUND MUSTARD

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| France | 2 | - | 12 | - | - |
| Germany, West | - | - | 9 | 9 | 1 |
| Hong Kong | 1 | 2 | 2 | 3 | 1 |
| Japan | - | - | - | 2 | 1 |
| Peoples Republic of China | - | 2 | - | - | 7 |
| United Kingdom | 495 | 527 | 457 | 599 | 676 |
| United States | 283 | 277 | 139 | 91 | 125 |
| Total (\$'000) | <u>783</u> | <u>808</u> | <u>619</u> | <u>704</u> | <u>813</u> |
| Total Value (\$'000) | <u>324</u> | <u>347</u> | <u>314</u> | <u>407</u> | <u>424</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

CHAPTER 8

OTHER OILSEED CAKE AND MEAL

There has been over a 1000% increase in quantity and over a 2000% increase in value of miscellaneous oilseed cake and meals imported into Canada in the past five years (Table 33). While the aggregate amounts are small compared to soybean meal they indicate a growing potential market for substitution for some uses.

Cottonseed meal was of decreasing interest to Canadian manufacturers until 1973 when a substantial increase in imports occurred. During 1974 cottonseed meal imports returned to a more traditional level. NES oilseed cake and meal imports on the other hand rose dramatically in 1973 and 1974, accounting for an almost 600% increase in volume since 1970.

Exports of NES (Not Elsewhere Specified) oilseed cake and meal have expanded phenomenally in the four years from the calendar years 1970 to 1973 (Table 34) but Statistics Canada show no exports for this category in 1974. Japan, Italy and the Netherlands-Antilles are the main new markets, with our sales to the United States increasing steadily. Unfortunately, since the United Kingdom joined the Common Market sales to that country have decreased substantially.

On balance our exports of these products were in 1973 over 42 times our imports quantitatively and over 13 times in value.

TABLE 33CANADIAN IMPORTS OF MISCELLANEOUS OILSEED CAKE AND MEALS

(Tons)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------------|-------------|-------------|-------------|--------------|--------------|
| Cottonseed Meal | 283 | 126 | 105 | 1,354 | 339 |
| Oilseed Cake & Meal (n.e.s.) | 66 | 251 | 388 | 1,556 | 3,641 |
| Total | <u>349</u> | <u>377</u> | <u>493</u> | <u>2,910</u> | <u>3,980</u> |
| Total Value (\$'000) | <u>28</u> | <u>33</u> | <u>48</u> | <u>506</u> | <u>598</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 34

CANADIAN EXPORTS OF OILSEED CAKES AND MEALS (NES)
(Tons)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------|-------------|---------------|---------------|----------------|-------------|
| Barbados | - | 18 | 12 | - | - |
| Belgium-Luxembourg | - | - | - | 60 | - |
| Bermuda | - | - | - | 32 | - |
| Cuba | - | 2 | 8 | - | - |
| France | - | - | - | 2,080 | - |
| Germany, West | - | - | - | 40 | - |
| Guyana | 2 | 8 | 10 | - | - |
| Italy | - | - | 2 | 10,310 | - |
| Japan | 16 | - | - | 77,962 | - |
| Korea, South | - | - | 3 | - | - |
| Leeward & Windward Is. | 10 | 48 | - | - | - |
| Netherlands-Antilles | - | 2,876 | 3,745 | 10,290 | - |
| Norway | - | - | - | 20 | - |
| Philippines | - | - | 1,096 | - | - |
| United Kingdom | - | 7,246 | 37,257 | 603 | - |
| United States | 32 | 1,647 | 11,555 | 22,697 | - |
| Total | <u>59</u> | <u>11,845</u> | <u>53,688</u> | <u>124,094</u> | <u>-</u> |
| Total Value (\$'000) | <u>6</u> | <u>554</u> | <u>2,883</u> | <u>6,706</u> | <u>-</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 9DEODORIZED FATS AND OILS

Deodorized fats and oils for purposes of this publication include coconut, corn, cottonseed, palm, palm kernel, peanut, rapeseed, soybean, sunflowerseed and other vegetable oils plus marine oils and animal fats. In addition, tables of import figures for cocoa butter and olive oil are provided.

Of the total production of deodorized fats and oils in 1973 and 1974, vegetable oils accounted for 84%, marine oils for 4% in 1973 but decreasing to 2% in 1974, while animal fats accounted for the remaining 12% in 1973 increasing to 14% in 1974 (Table 35). The uses of these deodorized fats and oils remained fairly constant in the past two years. Margarine oil took 24% of the production in 1973 and 26% in 1974. Shortening oil dropped from 54% of the total in 1973 to 50% in 1974, while salad oil increased from 22% to 24% of the total production in the two year period.

Imports of vegetable oils and fats increased in quantity by almost 400% in the five year period 1970 - 74 and slightly over 1000% in value (Table 36). While twenty-two countries supply Canada, the United Kingdom became the major new supplier in 1974, along with the United States accounted for 91% of Canadian imports of vegetable oils and fats.

Cocoa butter imports come from eighteen countries with the United States, Nigeria and Brazil the major suppliers in 1974 (Table 37). The value of imports of cocoa butter have practically doubled in the five years from 1970, while the volume has increased 209%.

Coconut oil imports have remained fairly steady except for a one year 56% jump in 1972 (Table 38). The total value rose sharply from 1973 to 1974, i.e. by 174%. Malaysia and Sri Lanka continue to be our major suppliers although the Philippines was a major supplier in 1972 and 1973.

Corn oil imports have risen approximately 40% in the five years from 1970 despite a reduction in imports in 1973 (Table 39). However, the volume of imports increased by 174%

in 1974 over 1973. The United States, the major supplier, accounted for 64% to 84% of total imports, followed by the United Kingdom accounting for 11 to 20% of the imports of corn oil.

Cottonseed oil imports come from the United States and have varied from 18,000,000 to 30,000,000 pounds in the past five years (Table 40). Total value decreased from 1970 to 1973 by approximately 25% but increased some 165% in the past year.

Olive oil imports come from thirteen countries, with Spain and Italy the major suppliers accounting for from 67 to 81% of the total (Table 41). Imports increased considerably in 1972 but returned to more normal levels in 1973 and 1974. The total value of olive oil imports rose less dramatically than other oils from 1973 to 1974 i.e. by only 64%.

Palm oil imports jumped spectacularly in 1972 to 68,000,000 pounds from 28,000,000 pounds the previous year (Table 42). Malaysia has been the major Canadian supplier but Indonesia, Singapore and the United States supplied 35% of the market in the past year. From a total value point of view, import costs increased by 134% in the past year although volume decreased by 17%.

Palm kernel oil imports have been more steady than palm oil in the past five years, varying from a low of 9.6 million pounds in 1974 to a high of 13.1 million pounds in 1973 (Table 43). Nigeria and the Zaire Republic (Congo-Kinshasa) were our major suppliers in the early 1970's but did not export any quantity to Canada in 1974. Malaysia has become the major supplier in the past three years with the United States the second largest supplier last year. Total value of imports increased 106% in the past year although volume decreased 26%.

Peanut oil imports decreased 38% from 1970 to 1974 (Table 44). Total value on the other hand increased by 55% over the five years, of which 30% represents the increase from 1973 to 1974. Nigeria was our major supplier in 1970 but shipped no peanut oil to us last year. The United States has become our major supplier, i.e. 87% of the total shipments in 1974.

Exports of Other Canadian vegetable oils and fats have gone to thirty-three countries in the past five years (Table 45). Although these exports have normally varied between 11,000,000 and 29,000,000 pounds from 1970 to 1973, they dropped drastically

to 1.6 million pounds in 1974 because rapeseed oil was no longer included in the figures. The United Kingdom, which took over 26,000,000 pounds in 1973, did not buy a pound from Canada in 1974 due the provisions of joining the European Economic Community. Canada's steady customers, albeit in comparatively small amounts in the past five years, have been the United States, Trinidad-Tobago, Guyana, Barbados, Leeward-Windward Islands and Bermuda. The total value of shipments has gone from a high of just over \$3 million in 1972 to a low of \$513,000 in 1974.

TABLE 35

CANADIAN PRODUCTION OF DEODORIZED FATS AND OILS

(Millions of Pounds)

| VEGETABLE OILS | 1 9 7 3 | | | | 1 9 7 4 | | | |
|----------------------|------------------|-------------------|--------------|-------|------------------|-------------------|--------------|-------|
| | Margarine Oil | Shortening Oil | Salad Oil | Total | Margarine Oil | Shortening Oil | Salad Oil | Total |
| Coconut | 0.8 | 38.8 | 1.5 | 41.0 | .6 | 23.1 | 1/ | 23.8 |
| Corn | 8.1 | X | X | 25.7 | 10.4 | 0.3 | X | X |
| Cottonseed | 1/ | 12.5 | 0.3 | 12.8 | 1/ | 9.5 | 0.8 | 10.5 |
| Palm | 8.8 | 35.5 | - | 44.3 | 8.9 | 20.0 | 0.2 | 29.1 |
| Palm Kernel | - | 11.2 | - | 11.2 | 1/ | 8.5 | - | 8.5 |
| Peanut | 1/ | X | X | 14.2 | - | 5.1 | X | X |
| Rapeseed | 75.8 | 89.3 | 72.6 | 237.7 | 63.4 | 65.3 | 72.3 | 201.1 |
| Soybean | 59.2 | 84.6 | 29.5 | 173.3 | 90.4 | 119.9 | 49.6 | 260.0 |
| Sunflowerseed | 0.1 | 3.3 | 23.0 | 26.5 | 0.1 | 4.1 | 16.3 | 20.5 |
| Other Vegetable | - | 1/ | - | 1/ | 0.4 | 1.1 | 1/ | 1.6 |
| TOTAL VEGETABLE OILS | 153.0 | 281.4 | 152.3 | 586.7 | 174.3 | 257.4 | 168.7 | 600.5 |
| MARINE OILS | | | | | | | | |
| Herring | 14.0 | 11.9 | - | 25.8 | 6.3 | 4.5 | - | 10.9 |
| Seal | - | - | - | - | 0.3 | 0.7 | - | 1.0 |
| Whale | - | - | - | - | - | - | - | - |
| Other Marine | - | 0.6 | - | 0.6 | 1/ | 1.0 | - | 1.1 |
| TOTAL MARINE OILS | 14.0 | 12.5 | - | 26.5 | 6.7 | 6.3 | - | 13.0 |

TABLE 35 (Cont'd)

CANADIAN PRODUCTION OF DEODORIZED FATS AND OILS

(Millions of Pounds)

| ANIMAL FATS | 1 9 7 3 | | | 1 9 7 4 | | | | |
|------------------------|------------------|-------------------|--------------|-------------|------------------|-------------------|--------------|-------------|
| | Margarine Oil | Shortening Oil | Salad Oil | Total | Margarine Oil | Shortening Oil | Salad Oil | Total |
| Lard | 0.9 | 28.3 | - | 29.2 | 4.4 | 42.5 | - | 47.0 |
| Oleo, All Types | <u>1/</u> | 1.1 | - | 1.1 | - | 2.6 | - | 2.6 |
| Tallow, Edible | 0.5 | 50.7 | - | 51.2 | 0.4 | 49.2 | <u>1/</u> | 49.7 |
| TOTAL ANIMAL FATS | <u>1.3</u> | <u>80.1</u> | <u>-</u> | <u>81.5</u> | <u>4.9</u> | <u>94.4</u> | <u>1/</u> | <u>99.4</u> |
| TOTAL, ALL FATS & OILS | 168.3 | 374.0 | 152.3 | 694.7 | 186.4 | 358.2 | 168.7 | 713.0 |

X Confidential Data
1/ Very Small Amount

SOURCE: Statistics Canada, Catalogue No. 32-006

TABLE 36

CANADIAN IMPORTS OF VEGETABLE OILS AND FATS

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| Austria | 13 | - | 12 | 15 | 3 |
| Belgium-Luxembourg | - | - | - | - | 40 |
| Brazil | 20 | 32 | 21 | 78 | 40 |
| Denmark | 11 | 3 | 361 | 22 | 310 |
| France | - | 3 | 113 | 6 | 6 |
| Germany, West | 4 | 8 | 4 | 37 | 160 |
| Greece | - | - | - | - | 408 |
| Hong Kong | 42 | 28 | 61 | 50 | 67 |
| India | <u>1/</u> | - | - | - | <u>1/</u> |
| Ireland | 10 | - | - | - | - |
| Israel | <u>1/</u> | - | 4 | 15 | - |
| Japan | 18 | 30 | 49 | 63 | 130 |
| Lebanon | - | 1 | 5 | 3 | - |
| Malaysia | - | <u>1/</u> | <u>1/</u> | - | - |
| Peoples' Republic of China | - | 3 | 1 | 4 | 11 |
| Singapore | - | - | - | - | <u>1/</u> |
| Switzerland | 44 | 25 | 59 | 2 | 3 |
| Syria | - | - | - | - | 2 |
| Taiwan | - | - | - | - | <u>1/</u> |
| United Kingdom | 116 | - | 40 | 637 | 4,396 |
| United States | 3,137 | 2,554 | 3,149 | 8,989 | 7,587 |
| Yugoslavia | 4 | - | 2 | 3 | - |
| <hr/> | | | | | |
| Total | 3,419 | 2,687 | 3,881 | 9,924 | 13,169 |
| <hr/> | | | | | |
| Total Value (\$'000) | 733 | 656 | 859 | 1,597 | 7,447 |
| <hr/> | | | | | |

1/ Less than 1000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 37

CANADIAN IMPORTS OF COCOA BUTTER

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Australia | - | - | - | - | 2,247 |
| Brazil | 1,221 | 224 | 552 | 774 | 3,698 |
| Cuba | 33 | 133 | 380 | 220 | - |
| Dominican Republic | - | - | - | 320 | 74 |
| Ecuador | - | - | - | - | 543 |
| Germany, West | 441 | - | - | 220 | 624 |
| Ghana | 3,334 | 5,880 | 5,801 | 2,641 | 2,240 |
| Guinea | - | - | - | - | 56 |
| Ireland | 97 | 138 | 76 | 93 | - |
| Ivory Coast | 1,268 | 110 | 1,681 | 220 | 2,154 |
| Jamaica | 134 | 67 | 291 | 112 | 98 |
| Leeward-Windward Is. | - | - | - | - | 67 |
| Mexico | - | - | 125 | 50 | - |
| Netherlands | 3,924 | 3,751 | 3,909 | 4,572 | 218 |
| Nigeria | 358 | - | 207 | 1,854 | 6,997 |
| Trinidad-Tobago | 41 | 10 | - | - | 22 |
| United Kingdom | 1,363 | 3,081 | 338 | 2,809 | 465 |
| United States | 1,047 | 1,189 | 526 | 651 | 9,351 |
| Total | <u>13,263</u> | <u>14,583</u> | <u>13,886</u> | <u>14,536</u> | <u>29,047</u> |
| Total Value (\$'000) | <u>10,948</u> | <u>8,576</u> | <u>7,807</u> | <u>12,925</u> | <u>20,048</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 38CANADIAN IMPORTS OF COCONUT OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Australia | 944 | 4,300 | - | 1,459 | 2,191 |
| British Oceania | - | - | - | 102 | - |
| Fiji | 5,091 | 5,409 | 703 | - | 3,796 |
| Germany, West | - | 4 | <u>1/</u> | - | 2 |
| Jamaica | 4 | 3 | 13 | 1 | - |
| Leeward-Windward Islands | - | - | - | 4 | - |
| Malaysia | 31,936 | 12,043 | 1,316 | 14,869 | 17,433 |
| Netherlands | - | 17 | 1,132 | 2,915 | - |
| Norway | - | - | - | - | <u>1/</u> |
| Philippines | - | 570 | 23,935 | 18,718 | 148 |
| Puerto Rico | - | - | - | 8 | 41 |
| Singapore | 79 | 37 | 94 | 10 | 11 |
| Sri Lanka | 4,611 | 6,726 | 31,411 | 3,811 | 17,850 |
| United Kingdom | 2,673 | 641 | 2,726 | 817 | 1,587 |
| United States | 2,000 | 15,762 | 9,865 | 4,238 | 5,343 |
| Total | <u>47,338</u> | <u>45,512</u> | <u>71,197</u> | <u>46,952</u> | <u>48,405</u> |
| Total Value (\$'000) | <u>7,246</u> | <u>6,465</u> | <u>6,311</u> | <u>7,643</u> | <u>20,934</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 39CANADIAN IMPORTS OF CORN OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| France | - | - | <u>1/</u> | - | 1 |
| Germany, West | - | - | - | 683 | - |
| Israel | 2 | - | - | - | - |
| Netherlands | 3,234 | 2,723 | - | - | - |
| United Kingdom | 2,711 | 3,491 | 2,059 | 2,353 | 3,539 |
| United States | 10,382 | 11,465 | 15,972 | 11,522 | 19,295 |
| Total | <u>16,328</u> | <u>17,678</u> | <u>18,031</u> | <u>14,558</u> | <u>22,836</u> |
| Total Value (\$'000) | <u>2,819</u> | <u>3,588</u> | <u>3,183</u> | <u>3,291</u> | <u>9,010</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 40CANADIAN IMPORTS OF COTTONSEED OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| United Kingdom | - | - | - | - | <u>1/</u> |
| United States | 30,767 | 22,913 | 22,466 | 18,524 | 24,985 |
| Total | <u>30,767</u> | <u>22,913</u> | <u>22,466</u> | <u>18,524</u> | <u>24,986</u> |
| Total Value (\$'000) | <u>4,169</u> | <u>3,582</u> | <u>2,868</u> | <u>3,102</u> | <u>8,214</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-008

TABLE 41CANADIAN IMPORTS OF OLIVE OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Belgium-Luxembourg | <u>1/</u> | <u>1/</u> | - | - | - |
| France | 60 | 35 | 101 | 66 | 85 |
| Germany, West | - | 4 | - | - | - |
| Greece | 748 | 870 | 851 | 288 | 233 |
| Israel | 4 | - | - | - | - |
| Italy | 1,214 | 1,513 | 2,040 | 1,539 | 1,705 |
| Lebanon | - | <u>1/</u> | - | - | - |
| Morocco | - | - | 44 | - | - |
| Portugal | 584 | 592 | 609 | 603 | 533 |
| Spain | 1,941 | 1,506 | 2,508 | 1,982 | 2,581 |
| Sweden | - | - | - | - | 19 |
| Turkey | - | 8 | - | - | 4 |
| United States | 136 | 261 | 245 | 121 | 147 |
| Total | <u>4,688</u> | <u>4,791</u> | <u>6,398</u> | <u>4,599</u> | <u>5,310</u> |
| Total Value (\$'000) | <u>1,849</u> | <u>1,968</u> | <u>2,854</u> | <u>2,795</u> | <u>4,597</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 42

CANADIAN IMPORTS OF PALM OIL
(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Germany, West | | <u>1/</u> | - | 8 | 2 |
| Indonesia | - | - | - | - | 4,434 |
| Malaysia | 25,441 | 28,235 | 64,030 | 43,119 | 23,155 |
| Singapore | - | - | - | - | 2,250 |
| United Kingdom | - | 4 | 3,369 | <u>1/</u> | 8 |
| United States | 1,287 | 118 | 639 | 36 | 5,861 |
| Total | <u>26,728</u> | <u>28,357</u> | <u>68,038</u> | <u>43,163</u> | <u>35,713</u> |
| Total Value (\$'000) | <u>2,959</u> | <u>2,913</u> | <u>5,521</u> | <u>4,560</u> | <u>10,671</u> |

1/ Less than 1,000 lbs.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 43CANADIAN IMPORTS OF PALM KERNEL OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|--------------|
| Congo-Kinshasa | - | 5,189 | - | - | - |
| Hong Kong | - | - | - | - | 442 |
| Malaysia | - | 508 | 9,701 | 9,864 | 6,548 |
| Netherlands | 675 | 46 | 35 | 314 | 173 |
| Nigeria | 9,967 | 4,119 | 1,380 | 2,151 | - |
| Singapore | - | - | 1,559 | - | - |
| United States | 738 | 946 | - | 774 | 2,483 |
| Total | <u>11,380</u> | <u>10,808</u> | <u>12,675</u> | <u>13,103</u> | <u>9,648</u> |
| Total Value (\$'000) | <u>1,896</u> | <u>1,568</u> | <u>1,257</u> | <u>2,160</u> | <u>4,459</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 44

CANADIAN IMPORTS OF PEANUT OIL
(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Belgium-Luxembourg | - | - | 2,798 | - | - |
| France | 116 | 42 | 164 | - | - |
| Gambia | 2,688 | 1,352 | 1,759 | - | - |
| Hong Kong | 189 | 178 | 199 | 209 | 420 |
| Italy | - | 2 | - | - | - |
| Netherlands | - | - | 448 | - | - |
| Nigeria | 13,947 | 1,120 | 587 | 4,751 | - |
| Portugal | 7 | - | - | - | - |
| United Kingdom | 926 | - | - | - | 1,146 |
| United States | 1,599 | 9,064 | 10,355 | 11,315 | 10,601 |
| Total | <u>19,472</u> | <u>11,758</u> | <u>16,310</u> | <u>16,275</u> | <u>12,168</u> |
| Total Value (\$'000) | <u>3,245</u> | <u>2,155</u> | <u>2,766</u> | <u>3,769</u> | <u>5,031</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 45

CANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS ^{1/}

(Thousands of Pounds)

| DESTINATION | 1970 | 1971 | 1972 | 1973 | 1974 |
|----------------------|-----------|-----------|-----------|--------|-----------|
| Australia | 5,185 | 940 | - | - | - |
| Bahamas | 8 | 5 | 5 | 12 | - |
| Barbados | 61 | 86 | 77 | 62 | 96 |
| Bermuda | 38 | 12 | 8 | 44 | 6. |
| British Honduras | 4 | <u>2/</u> | 2 | 2 | - |
| Costa Rica | - | - | 8 | - | - |
| Cuba | <u>2/</u> | 7 | 18 | 32 | 3 |
| El Salvador | - | - | <u>2/</u> | - | - |
| Ethiopia | <u>2/</u> | - | - | - | - |
| Germany, West | - | - | - | - | 3 |
| Ghana | 2 | - | - | - | - |
| Greenland | - | - | - | 1 | - |
| Guatemala | - | - | 2 | - | - |
| Guyana | 58 | 59 | 83 | 58 | 340 |
| Honduras | - | - | - | 13 | - |
| Hong Kong | 1,462 | - | 2,721 | 924 | - |
| Italy | - | <u>2/</u> | - | - | - |
| Jamaica | 41 | - | 41 | 14 | 4 |
| Japan | <u>2/</u> | - | <u>2/</u> | - | - |
| Kenya | 1 | 3 | 5 | 6 | 1 |
| Kuwait | - | - | - | - | 25 |
| Leeward-Windward Is. | 80 | 117 | 89 | 69 | 21 |
| Mexico | - | - | - | 21 | - |
| Netherlands-Antilles | <u>2/</u> | <u>2/</u> | 3 | - | - |
| Nigeria | - | 1 | - | - | - |
| Pakistan | - | - | 4,997 | - | - |
| Sierra Leone | 6 | 12 | - | - | - |
| South Africa | - | - | - | - | <u>2/</u> |
| St. Pierre-Miquelon | - | 4 | <u>2/</u> | 2 | <u>2/</u> |
| Trinidad-Tobago | 143 | 579 | 291 | 293 | 352 |
| United Kingdom | 12,647 | 8,282 | 9,787 | 26,676 | - |
| United States | 421 | 1,341 | 1,927 | 981 | 828 |
| U.S. Oceania | - | 6 | - | - | - |
| Total | 20,182 | 11,454 | 20,056 | 29,210 | 1,683 |
| Total Value (\$'000) | 2,679 | 1,854 | 3,093 | 1,238 | 513 |

^{1/} This export class No. 393-99 includes sunflower oil, salad & cooking oil and certain speciality fats like pan greases. Prior to 1973 it included rapeseed oil.

^{2/} Less than 1,000 lbs.

CHAPTER 10

SPECIFIED FATS AND OILS

Over the past five years production figures for margarine and butter (Table 46) would appear to indicate a trend in consumer preference towards margarine and away from butter, doubtless due to the price differential between the two products. At the same time imports of margarine (Table 47) have climbed dramatically, and exports (Table 48) show a relatively even pattern. At the same time it should be noted (Table 52) that whole milk production has steadily declined since 1965. This trend may be reversed by recently announced agricultural support policies for the dairy industry which could result in an increase in butter production.

Production of shortening has shown a steady increase over the past five years. It is significant that volume of retail sized packages has declined. Imports have increased dramatically (Table 47) but exports have not materially changed.

Salad oil production shows spectacular gains over the five year period.

The production of lard, edible and inedible tallows is of course governed to a large extent by the volume of hog and cattle slaughter. Production figures (Table 46) therefore mirror the trend in hog and cattle production. Forecasts for this year indicate approximately 10-12 percent decrease in hog slaughter numbers and 3.5 percent increase in cattle slaughter numbers over 1974. Figures for 1976 will depend to a large extent on price and availability of feed.

Canada has continued to be a net importer of lard (Tables 48 and 50), with 1974 showing a dramatic increase over previous years. With the present forecast for hog slaughterings this trend is likely to continue for 1975.

Imports of tallow and animal fats have steadily declined, while exports (Table 51) have shown a fairly steady pattern over the five year period. A study of this table indicates the change in importance of various trading partners during this period, together with the remarkable change in value which occurred in 1974, this only due in part to inflation and chiefly to the effect of the increase in cost of petroleum products. Export patterns already established should continue in 1975 and values should continue strong.

TABLE 46CANADIAN PRODUCTION OF SPECIFIED FATS AND OILS PRODUCTS

(Millions of Pounds)

| | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| Margarine ^{1/} | 199 | 200 | 212 | 217 | 240 |
| Butter ^{2/} | 337 | 296 | 300 | 218 | 240 |
| <u>SHORTENING</u> | | | | | |
| Packaged ^{3/} | 44 | 42 | 37 | 39 | 38 |
| Bulk ^{4/} | 280 | 283 | 312 | 360 | 340 |
| <u>REFINED OILS</u> | | | | | |
| Salad | 116 | 121 | 142 | 152 | 171 |
| Lard ^{5/} | 120 | 139 | 122 | 110 | 110 |
| <u>TALLOW</u> | | | | | |
| Edible | 42 | 39 | 44 | 40 | 37 |
| Inedible | 354 | 401 | 407 | 407 | 402 |

1/ Includes retail and commercial packages. Commercial sales (21-450 pound) packages account for about 3% of total output.

2/ Includes factory and farm butter.

3/ Retail packages up to 20 pounds only.

4/ Covers commercial (21-450 pound) packages, bulk and other than packaged retail sales of manufacturers of shortening and deodorized shortening oil. Includes baking and frying fats and oils.

5/ Rendered lard includes shipments of processed lard in retail and commercial packages and bulk sales.

SOURCE: Statistics Canada, Catalogue No. 32-006

TABLE 47

CANADIAN IMPORTS OF MARGARINE AND SHORTENING
(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|--------------|--------------|---------------|--------------|---------------|
| Denmark | - | - | - | 2 | - |
| Germany, West | - | 3 | 11 | 4 | 21 |
| Greece | - | - | - | 8 | - |
| Netherlands | 4 | - | - | - | - |
| Norway | 7 | 2 | - | - | - |
| Spain | 25 | - | - | - | - |
| Sweden | 296 | 122 | 178 | 88 | 154 |
| United States | 3,639 | 6,004 | 11,127 | 9,511 | 26,243 |
| Total | <u>3,971</u> | <u>6,131</u> | <u>11,316</u> | <u>9,613</u> | <u>26,419</u> |
| Total Value (\$'000) | <u>793</u> | <u>1,126</u> | <u>1,643</u> | <u>1,743</u> | <u>9,005</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 48

CANADIAN EXPORTS OF MARGARINE, SHORTENING AND LARD
(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Bahamas | 18 | 18 | - | - | - |
| Barbados | - | - | - | 86 | - |
| Bermuda | 42 | 50 | 54 | 49 | 50 |
| Germany, West | 2 | - | - | - | - |
| Greenland | - | - | 1 | 7 | - |
| Guyana | 10 | 1 | - | - | - |
| Jamaica | 28 | 12 | 18 | 9 | 67 |
| Japan | 9 | - | - | - | 40 |
| Leeward-Windward Islands | <u>1/</u> | 1 | <u>1/</u> | 1 | 1 |
| Netherlands-Antilles | 14 | 14 | 5 | 7 | 2 |
| St. Pierre-Miquelon | 102 | 91 | 113 | 111 | 97 |
| Surinam | 3 | - | - | - | - |
| United States | 2 | 628 | 327 | 49 | 516 |
| Yemen | - | - | - | <u>1/</u> | - |
| Total | <u>230</u> | <u>815</u> | <u>518</u> | <u>319</u> | <u>777</u> |
| Total Value (\$'000) | <u>61</u> | <u>118</u> | <u>91</u> | <u>100</u> | <u>290</u> |

1/ Less than 1,000 lbs.

SOURCE: Statistics Canada, Catalogue 65-004

TABLE 49CANADIAN IMPORTS OF VEGETABLE COOKING FATSAND PACKAGED SALAD OILS

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|--------------|-------------|--------------|--------------|--------------|
| Denmark | - | 4 | - | - | 5 |
| France | - | - | 46 | - | 39 |
| Germany, West | 4 | - | 2 | - | - |
| Greece | - | - | - | 19 | 40 |
| Hong Kong | - | 1 | 2 | 2 | - |
| Israel | - | - | - | - | 2,206 |
| Italy | - | - | 19 | - | - |
| Singapore | - | - | 4 | - | - |
| Sweden | 11 | <u>1/</u> | 39 | 59 | 41 |
| United Kingdom | - | 4 | 10 | 629 | 36 |
| United States | <u>1,149</u> | <u>830</u> | <u>1,077</u> | <u>1,563</u> | <u>852</u> |
| Total | <u>1,163</u> | <u>839</u> | <u>1,199</u> | <u>2,272</u> | <u>3,222</u> |
| Total Value (\$'000) | <u>215</u> | <u>182</u> | <u>234</u> | <u>636</u> | <u>471</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 50

CANADIAN IMPORTS OF LARD, TALLOW, ANIMAL OILS AND FATS

(Thousands of Pounds)

| <u>LARD</u> | | | | | |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
| Australia | - | - | - | 4 | 20 |
| United States | 20,811 | 13,415 | 21,567 | 15,782 | 38,959 |
| Total | <u>20,811</u> | <u>13,415</u> | <u>21,567</u> | <u>15,786</u> | <u>38,979</u> |
| Total Value (\$'000) | <u>2,489</u> | <u>1,493</u> | <u>2,258</u> | <u>2,531</u> | <u>12,306</u> |

TALLOW, ANIMAL OILS AND FATS

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|--------------|--------------|
| Australia | 4 | - | 20 | 49 | 8 |
| Germany, West | - | - | - | 4 | - |
| Netherlands | - | - | 1,485 | - | - |
| United Kingdom | - | 5 | - | 3 | - |
| United States | 22,815 | 21,789 | 19,558 | 7,117 | 9,512 |
| Total | <u>22,819</u> | <u>21,794</u> | <u>21,063</u> | <u>7,173</u> | <u>9,520</u> |
| Total Value (\$'000) | <u>2,262</u> | <u>1,996</u> | <u>1,929</u> | <u>1,226</u> | <u>1,803</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 51

CANADIAN EXPORTS OF TALLOW, ANIMAL
OILS AND FATS

(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| Barbados | 372 | - | - | 51 | 199 |
| Belgium-Luxembourg | 1,625 | 1,297 | 5,375 | 2,609 | 1,320 |
| Bermuda | <u>1/</u> | <u>1/</u> | <u>1/</u> | - | - |
| Brazil | - | - | - | - | 215 |
| Cuba | 6,613 | 3,074 | 2,194 | 10,813 | 30,067 |
| Dominican Republic | - | - | - | - | 40 |
| France | - | 3,535 | 1 | 2,093 | 2,211 |
| Germany, West | - | 2,124 | 1,990 | 3,242 | - |
| Ghana | 1,793 | - | 551 | - | 1,315 |
| Guatemala | - | - | 2 | - | 71 |
| Jamaica | 82 | 147 | 13 | 63 | 526 |
| Japan | 62,734 | 56,775 | 50,075 | 42,903 | 33,898 |
| Kenya | 204 | 3,479 | 120 | - | - |
| Korea, South | - | - | - | 2,172 | 11,624 |
| Leeward-Windward Is. | 390 | 250 | 154 | 132 | 9 |
| Malaysia | - | 67 | 41 | - | - |
| Mexico | - | - | - | - | 36 |
| Netherlands | 21,427 | 42,836 | 52,735 | 14,791 | 53,317 |
| Netherlands-Antilles | - | - | - | - | 7 |
| Norway | - | - | - | 655 | 37 |
| Pakistan | 4,642 | 427 | - | - | - |
| Peoples Republic of China | 3,809 | 21,315 | 47,225 | 21,933 | 24,499 |
| Puerto Rico | - | - | - | - | 38 |
| Senegal | - | - | - | - | 2,200 |
| Singapore | 106 | 25 | 4 | - | 80 |
| South Africa | - | 1,898 | - | - | - |
| Spain | 6,149 | 10,810 | 7,396 | 2,064 | 3,419 |
| St. Pierre-Miquelon | <u>1/</u> | - | <u>1/</u> | 1 | <u>1/</u> |

TABLE 51 Cont'd

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|----------------|----------------|----------------|----------------|----------------|
| Guyana | 20 | 33 | 50 | - | - |
| Sweden | - | 1 | - | - | - |
| Switzerland | - | 29 | 73 | 206 | 332 |
| Taiwan | - | - | 1,532 | - | - |
| Trinidad-Tobago | 1,990 | 2,635 | 1,771 | 1,297 | 720 |
| United Kingdom | 57,447 | 47,840 | 39,077 | 48,811 | 30,432 |
| United States | 24,282 | 29,875 | 26,378 | 35,762 | 23,997 |
| Venezuela | - | - | - | 40 | 426 |
| Zambia | - | - | 61 | - | 2,654 |
| Total | <u>193,694</u> | <u>228,481</u> | <u>236,825</u> | <u>191,894</u> | <u>223,676</u> |
| Total Value (\$'000) | <u>16,133</u> | <u>19,228</u> | <u>16,479</u> | <u>24,407</u> | <u>41,253</u> |

/ Less than 1000 lbs.

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 52

CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION
(Millions of Pounds)

| <u>Year</u> | <u>Total Milk Production</u> | | <u>Butterfat Utilization</u> | | | |
|-------------|------------------------------|--|---|--------------------------------------|---------------------------|---------------------|
| | <u>Whole Milk</u> | <u>Butterfat Equivalent^{1/}</u> | <u>Manufactured Dairy Products^{2/}</u> | <u>Fluid Milk Sales^{3/}</u> | <u>Farm Home Consumed</u> | <u>Fed on Farms</u> |
| 1965 | 18,357 | 641 | 402 | 182 | 31 | 27 |
| 1966 | 18,373 | 643 | 404 | 183 | 30 | 25 |
| 1967 | 18,208 | 638 | 398 | 182 | 30 | 24 |
| 1968 | 18,362 | 640 | 407 | 179 | 29 | 24 |
| 1969 | 18,711 | 655 | 421 | 178 | 29 | 24 |
| 1970 | 18,312 | 640 | 404 | 182 | 28 | 24 |
| 1971 | 17,775 | 622 | 385 | 184 | 26 | 23 |
| 1972 | 17,709 | 620 | 391 | 190 | 16 | 23 |
| 1973 | 16,885 | 576 | 342 | 193 | 16 | 25 |
| 1974 | 16,670 | 569 | 334 | 197 | 13 | 25 |

BUTTERFAT UTILIZATION IN MANUFACTURED DAIRY PRODUCTS

| <u>Year</u> | <u>Total</u> | <u>Creamery Butter</u> | <u>Cheese^{4/}</u> | <u>Concentrated Whole Milk Products</u> | <u>Ice-Cream Mix</u> |
|-------------|--------------|------------------------|----------------------------|---|----------------------|
| 1965 | 399 | 276 | 69 | 35 | 19 |
| 1966 | 401 | 270 | 75 | 30 | 22 |
| 1967 | 399 | 267 | 74 | 29 | 26 |
| 1968 | 406 | 272 | 76 | 28 | 26 |
| 1969 | 421 | 286 | 79 | 54 | 5/ |
| 1970 | 404 | 268 | 82 | 52 | 5/ |
| 1971 | 385 | 234 | 84 | 24 | 36 |
| 1972 | 391 | 238 | 85 | 22 | 37 |
| 1973 | 342 | 204 | 84 | 22 | 32 |
| 1974 | 334 | 188 | 94 | 20 | 32 |

SOURCE: Based on unpublished Statistics Canada data.

TABLE 52 (Cont'd)FOOTNOTES TO CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

- 1/ Fat content of milk based on conversion factor of 3.5%.
- 2/ Includes creamery butter, cheddar cheese (bulk of all Canadian cheese production, about 77% in 1972), other cheese, concentrated whole milk products, ice-cream mix.
- 3/ Fluid milk sales represent whole milk sales from farms for use in milk and cream.
- 4/ Includes mainly cheddar cheese and other factory cheese made from whole milk and cream. Excludes creamed cottage cheese.
- 5/ Included with concentrated whole milk products.

TABLE 53

INDUSTRY SELLING PRICE INDEXES FOR CERTAIN FATS
(1961-100)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|---------------------|-------------|-------------|-------------|-------------|-------------|
| Butter, Creamery | 105.9 | 107.9 | 111.3 | 114.9 | 128.5 |
| Lard | 116.4 | 109.3 | 117.2 | - | - |
| Margarine <u>1/</u> | 118.9 | 122.9 | 123.3 | 142.1 | 231.7 |
| Margarine <u>2/</u> | 108.5 | 113.0 | 112.1 | 124.3 | 213.5 |
| Shortening | 98.9 | 100.2 | 100.2 | 129.6 | 188.9 |

1/ As reported by Slaughtering and Meat Packing firms.

2/ As reported by other Manufacturers.

SOURCE: Statistics Canada, Catalogue No. 62-002

CHAPTER 11

MARINE AND FISH OILS AND MEALS

Industry Trends

Whereas the later half of the sixties was characterized by the extremely rapid growth and development of the Atlantic Coast reduction industry, the opening years of this decade have, on the other hand, witnessed the peaking and subsequent reversal of this trend. Landings of herring on which this growth phase was based have declined since 1968-70, when landings reached a plateau in excess of 1 million tons, to 493 thousand tons in 1974. In addition to the decline in the herring catch per se there has been a progressive diversion of landings into the production of food products, in response to the emergence of a market for Canadian food herring in Europe, which has further reduced the feedstock available to the reduction industry.

Given the depletion that has occurred in the resource, the growing importance that is being placed on utilization of herring for direct food production relative to reduction, and the range of limitations, such as a ceiling on catching capacity, that have been placed on the level of the fishing effort, it is difficult to visualize any reversal in the current declining trend in landings of herring for reduction purposes. At this juncture it would appear that the emergence of the Atlantic Coast reduction industry from its present contractionary phase will be contingent upon the large scale exploitation of the offshore capelin resource. It is probable that such a development is still at least several years in the future: Rapidly escalating costs of harvesting coupled with falling meal and oil markets are rendering the exploitation of the capelin resource increasingly unattractive from an economic standpoint. The trend referred to above has been instrumental in bringing about a decline of 51% and 66% respectively in the output of fish meal and marine oil on the Atlantic Coast over the course of the past four years.

Although there has been a resurgence of the herring population on the Pacific Coast and limited exploitation of this resource is now being permitted, this branch of the Canadian

reduction industry is still essentially inactive. The scope for utilization of the herring resource - which historically has provided the main source of raw material for reduction - is now severely circumscribed: Pacific herring may now be harvested for food purposes only, and the raw material available to the reduction industry is consequently confined to that portion of the catch not suitable for conversion to food products. It is believed that the production of meal from all species on the Pacific Coast in 1974 was approximately at the 1973 level of about 7 thousand tons, while the output of marine oil was below the 1973 level of 2.3 thousand tons. These levels of current production contrast sharply with the 58 thousand tons and 29 thousands tons respectively that were produced in 1963, when the exploitation of the herring resource was at a peak.

The production of whale oil, which has become of minor importance in recent years has now ceased in Canada following the extension of the ban on the harvesting of whales to encompass all the commercial species.

Marine Oil

In 1974 the total output of marine oil in Canada was below 15 thousand tons, as against over 36 thousand tons in 1970. This decline was primarily attributable to the decline in the production of herring oil which fell by some 66% over the period notwithstanding that herring oil continues to be the leading marine oil produced in Canada and its relative importance has not diminished in line with the absolute decline in production. In 1974 herring oil still accounted for nearly 68% of the Canadian output of marine oil. The relative importance of herring has been maintained because of the declines that have also occurred in the output of seal, whale, and cod liver oil. Groundfish body and offal oil is the only oil that has not entered into a contractionary phase in recent years.

Imports of marine oil have continued the declining trend which began after 1966, and in 1974 were 18% of the level of the former year. Exports have fallen to a relatively low level with slightly under 10 thousand tons being shipped in 1974 as against about 23 thousand tons in 1970.

Price trends for marine oil may be illustrated by reference to the behaviour of prices for menhaden oil. Average menhaden prices, f.o.b. United States, East Coast plants followed a rising trend from early 1972, when prices were of the order of 6.5 cents per pound until August 1974, when the average price

peaked at 26 cents per pound. Since that date the market has further weakened.

Fish Meal

It is estimated that about 68 thousand tons of fish meal was produced in Canada in 1974, assuming approximately 7 thousand tons for the Pacific Coast, as against almost 124 thousand tons in 1970, a contraction in output of 45% over the period (Table 57). This trend is attributable solely to the decline in herring meal production, which in turn is a reflection of the reduced availability of this species for reduction purposes. The output of groundfish meal, the other major category of meal produced by the Canadian reduction industry, remained essentially stable over the period.

Canadian imports of fish meal continue to be insignificant (Table 58) and exports of this product have been declining in absolute terms, although remaining relatively stable as a proportion of total production. In 1974 exports of fish meal were 47% of the 1970 level and accounted for 57% of output compared with 65% four years earlier (Table 59).

As is the case with marine oil the market for fish meal has been softening. As an illustration of world trends in fish meal prices the average monthly price for menhaden meals containing 65% protein, f.o.b. United States East Coast and Gulf plants fell from a peak of \$508 per ton in mid-1973 to \$220 per ton in March 1975. There is as yet no firm evidence to suggest that the trough of the trend has yet been reached and some further softening of the market is probable.

TABLE 54

CANADIAN PRODUCTION OF MARINE OILS BY TYPES AND AREAS

(Thousands of Tons)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-----------------------|--------------|-------------|-------------|--------------|-------------|
| <u>ATLANTIC COAST</u> | | | | | |
| Groundfish | | | | | |
| Body & Offal | 2.9 | 4.0 | 3.8 | 6.1 | 3.8 |
| Liver (Cod) | .9 | .5 | <u>1/</u> | <u>1/</u> | <u>1/</u> |
| Herring | 25.9 | 23.9 | 12.8 | 8.3 | 7.9 |
| Seal | 1.8 | 1.9 | 1.7 | .8 | <u>2/</u> |
| Other <u>3/</u> | 4.2 | 2.9 | 3.0 | .3 | .4 |
| ATLANTIC TOTAL | <u>35.7</u> | <u>33.2</u> | <u>21.3</u> | <u>15.5</u> | <u>12.1</u> |
| <u>PACIFIC COAST</u> | | | | | |
| Salmon | .25 | .5 | <u>4/</u> | .9 | <u>5/</u> |
| Herring | - | <u>4/</u> | <u>4/</u> | 1.2 | <u>5/</u> |
| Other | .3 | .1 | 1.3 | .25 | <u>5/</u> |
| PACIFIC TOTAL | <u>.55</u> | <u>.6</u> | <u>1.3</u> | <u>2.35</u> | <u>5/</u> |
| CANADA TOTAL | <u>36.25</u> | <u>33.8</u> | <u>22.6</u> | <u>17.85</u> | <u>12.1</u> |

1/ Very small quantity, included with "Body and Offal Oil".2/ Included under "Other".3/ Primarily whale oil.4/ Confidential, included under "Other".5/ Not yet available.SOURCE: Based on Environment Canada data.

TABLE 55CANADIAN IMPORTS OF FISH AND MARINE OILS

(Short Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|--------------|--------------|--------------|--------------|-------------|
| Denmark | - | - | - | 7 | <u>1/</u> |
| France | - | - | - | - | <u>1/</u> |
| Germany, West | - | - | - | - | <u>1/</u> |
| Japan | - | 5 | - | 7 | 99 |
| Norway | 2 | 3 | 185 | 148 | 198 |
| South Africa | - | 275 | 81 | 99 | 102 |
| United Kingdom | 224 | 256 | 258 | 357 | 182 |
| United States | <u>1,609</u> | <u>1,180</u> | <u>1,296</u> | <u>746</u> | <u>355</u> |
| TOTAL | <u>1,835</u> | <u>1,719</u> | <u>1,820</u> | <u>1,364</u> | <u>936</u> |
| TOTAL VALUE (\$'000) | <u>607</u> | <u>747</u> | <u>439</u> | <u>424</u> | <u>467</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 56CANADIAN EXPORTS OF MARINE OILS BY TYPES

(Thousands of Tons)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|
| Cod Liver Oil, Sun Rotted | 2.25 | 2.55 | 1.1 | 1.4 | 1.15 |
| Herring Oil | 18.6 | 5.75 | 3.75 | 3.1 | 6.05 |
| Whale Oil | .95 | 3.15 | 2.4 | 1.35 | - |
| Fish & Marine Animal Oil, NES | .75 | .7 | .7 | 2.95 | 2.55 |
| TOTAL | <u>22.55</u> | <u>12.15</u> | <u>7.95</u> | <u>8.8</u> | <u>9.75</u> |
| TOTAL VALUE (\$'000) | <u>3,715</u> | <u>2,237</u> | <u>1,368</u> | <u>1,795</u> | <u>3,763</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 57CANADIAN PRODUCTION OF FISH MEALS BY TYPES AND AREAS

(Thousands of Tons)

| M E A L | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-----------------------|--------------|--------------|-------------|-------------|-------------|
| <u>ATLANTIC COAST</u> | | | | | |
| Groundfish | 42.3 | 41.2 | 41.6 | 38.0 | 39.8 |
| Herring | 79.8 | 58.9 | 29.5 | 15.0 | 18.1 |
| Other | 0.3 | 0.5 | 0.9 | 1.8 | 2.6 |
| ATLANTIC TOTAL | <u>122.4</u> | <u>100.6</u> | <u>72.0</u> | <u>54.8</u> | <u>60.5</u> |
| <u>PACIFIC COAST</u> | | | | | |
| Herring | <u>1/</u> | <u>1/</u> | <u>1/</u> | 4.7 | <u>2/</u> |
| Salmon | 1.0 | 1.6 | 1.7 | 1.7 | <u>2/</u> |
| Other | 0.2 | 0.5 | 5.8 | 0.6 | <u>2/</u> |
| PACIFIC TOTAL | <u>1.2</u> | <u>2.1</u> | <u>7.5</u> | <u>7.0</u> | <u>2/</u> |
| CANADA TOTAL | <u>123.6</u> | <u>102.7</u> | <u>79.5</u> | <u>61.8</u> | <u>60.5</u> |

1/ Less than 1000 tons.2/ Not yet available.SOURCE: Based on Environment Canada data.

TABLE 58CANADIAN IMPORTS OF FISH MEAL

(Short Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|-------------|-------------|--------------|-------------|-------------|
| Denmark | - | - | - | - | 12 |
| Germany, West | - | - | - | - | <u>1/</u> |
| Peru | 70 | - | 1,041 | 24 | - |
| Puerto Rico | - | - | 23 | 90 | - |
| United Kingdom | - | - | - | - | 3 |
| United States | 30 | 25 | 281 | 418 | 277 |
| TOTAL | <u>100</u> | <u>25</u> | <u>1,345</u> | <u>482</u> | <u>282</u> |
| TOTAL VALUE (\$'000) | <u>20</u> | <u>5</u> | <u>216</u> | <u>121</u> | <u>83</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 59CANADIAN EXPORTS OF FISH MEAL AND CONDENSED SOLUBLES

(Short Tons)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--|---------------|---------------|---------------|---------------|---------------|
| Herring Meal and Pilchard Meal | 59,500 | 45,338 | 22,714 | 14,327 | 17,947 |
| Fish Meal NES | 20,400 | 23,647 | 13,326 | 18,063 | 20,275 |
| Fish Condensed Homo- genized Solubles | 700 | 108 | 194 | 204 | - |
| TOTAL (MEAL ONLY) | <u>80,600</u> | <u>69,093</u> | <u>36,234</u> | <u>32,594</u> | <u>38,227</u> |
| TOTAL VALUE (MEAL ONLY) (\$'000) | <u>14,233</u> | <u>11,524</u> | <u>6,703</u> | <u>11,023</u> | <u>12,160</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 12

THE CANADIAN FLAXSEED SITUATION

Flaxseed production has been quite variable in Canada over the past five years. Acreage and production have followed a trend downwards since 1970 when 3.3 million acres were in production decreasing to 1.5 million acres in 1974.

With only two crushers operating, the domestic crush is now less than one million bushels per year (Table 60). The main reason for this decline is the reduction in demand for linseed oil, which several years ago was a major ingredient in paints, linoleum and oilcloth products but has since been largely replaced by synthetic products.

Flaxseed prices went as high as \$11.67 per bushel in 1974 because of tight world supplies (Table 66). However, economic conditions during 1974 and 1975 have resulted in a decline to \$9.00 per bushel, and prices are expected to be under downward pressure for the balance of 1975. Exports of both flaxseed (Table 61) and linseed oil (Table 64) decreased sharply in 1973 compared to the previous year, with linseed oil exports almost disappearing in 1974.

Canada continues to be the world's major exporter of flaxseed. The main export customers are West Germany, Japan, the Netherlands and the United Kingdom. The export value of flaxseed in calendar 1974 was \$148.6 million, an increase of about 30% in value even though the export tonnage decreased about 20% from 1973.

TABLE 60CANADIAN SUPPLY AND DISPOSITION OF FLAXSEED,LINSEED OIL AND LINSEED MEAL

(Crop Year)

| | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> |
|--------------------------------|------------------------|----------------|----------------|----------------|
| <u>FLAXSEED</u> | | | | |
| | (Thousands of Bushels) | | | |
| Stocks, Starting ^{1/} | 6,570 | 25,306 | 16,032 | 7,673 |
| Production | 47,966 | 22,387 | 17,617 | 19,400 |
| Imports | - | - | 3 | 17 |
| Exports | 21,194 | 25,741 | 19,640 | 15,503 |
| Domestic Crushing | 2,827 | 3,101 | 2,633 | 762 |
| <u>LINSEED OIL</u> | | | | |
| | (Thousands of Pounds) | | | |
| Exports | 25,598 | 32,892 | 23,344 | 4,918 |
| Domestic Production | 54,670 | 59,836 | 50,183 | 14,554 |
| <u>LINSEED MEAL</u> | | | | |
| | (Tons) | | | |
| Exports | 14,859 | 22,641 | 14,038 | 27 |
| Domestic Production | 49,782 | 54,980 | 46,338 | 13,153 |

^{1/} Total stocks in all positions.SOURCE: Statistics Canada, Catalogue 22-006

TABLE 61

CANADIAN EXPORTS OF FLAXSEED

(Short Tons)

| DESTINATION | 1970 | 1971 | 1972 | 1973 | 1974 |
|----------------------|---------|---------|---------|---------|---------|
| Australia | - | - | 13,263 | - | 6,210 |
| Belgium-Luxembourg | 44,509 | 28,981 | 31,474 | 13,103 | 8,243 |
| Czechoslovakia | 9,743 | 7,570 | 6,585 | 17,446 | 27,563 |
| Denmark | 1,401 | 1,865 | 349 | 2,274 | - |
| Finland | 1,617 | 2,302 | - | - | - |
| France | 10,909 | 13,187 | 9,018 | 8,568 | 5,735 |
| Germany, East | - | 4,343 | - | - | 4,255 |
| Germany, West | 56,059 | 99,141 | 87,330 | 129,925 | 122,005 |
| Greece | 10,098 | 4,905 | 12,388 | 1,512 | 2,408 |
| Israel | 1,877 | 2,036 | - | - | - |
| Italy | 14,154 | 17,653 | 8,720 | 14,061 | - |
| Japan | 151,575 | 130,456 | 118,310 | 121,391 | 84,909 |
| Korea, South | 9,343 | 15,385 | 5,197 | 3,276 | - |
| Lebanon | - | 3,615 | 3,841 | - | - |
| Morocco | 3,341 | - | - | - | - |
| Netherlands | 122,042 | 247,204 | 278,561 | 95,690 | 45,514 |
| New Zealand | - | - | - | - | 2,425 |
| Norway | 7,395 | 4,928 | 4,410 | - | - |
| Poland | - | - | - | - | 25,644 |
| Spain | 36,382 | 32,737 | 12,935 | 11,942 | 7,166 |
| Switzerland | 1,145 | 3,520 | 11,838 | 2,101 | 1,364 |
| Syria | - | 826 | - | - | - |
| United Kingdom | 63,075 | 67,376 | 51,701 | 54,941 | 34,544 |
| United States | 37 | 2,113 | 2 | 1,290 | 13,955 |
| Total | 544,704 | 690,147 | 655,435 | 477,524 | 386,948 |
| Total Value (\$'000) | 55,757 | 63,849 | 68,511 | 112,984 | 148,631 |

TABLE 62CANADIAN IMPORTS OF FLAXSEED

(Short Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|-------------|------------------|-------------|-------------|-------------|
| Kenya | - | - | 2 | - | - |
| United States | 186 | <u>1/</u> | 17 | 95 | 498 |
| Total | <u>186</u> | <u><u>1/</u></u> | <u>19</u> | <u>95</u> | <u>498</u> |
| Total Value (\$'000) | <u>30</u> | <u>-</u> | <u>3</u> | <u>25</u> | <u>333</u> |

1/ Less than one short ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 63

QUALITY DATA FOR WESTERN CANADIAN FLAXSEED,
SURVEY SAMPLES OF 1974 CROP

| | Oil Content | | Iodine Value | | Protein Content | | No. of Samples |
|-----------------------|-------------|-----------|--------------|---------|-----------------|-----------|----------------|
| | Mean | Range | Mean | Range | Mean | Range | |
| <u>WESTERN CANADA</u> | | | | | | | |
| No. 1 CW | 43.9 | 38.5-49.2 | 195 | 177-206 | 41.3 | 32.7-48.3 | 197 |
| No. 2 CW | 43.7 | 38.3-48.5 | 198 | 187-203 | 38.1 | 30.1-45.5 | 49 |
| No. 3 CW | 41.6 | 35.0-46.3 | 198 | 192-202 | 34.4 | 29.4-42.8 | 31 |
| No. 4 CW | 33.4 | 32.6-34.3 | 196 | 194-199 | 28.6 | 24.8-32.4 | 2 |
| All Grades | 43.5 | 32.6-49.2 | 196 | 177-206 | 39.9 | 24.8-48.3 | 279 |
| <u>ALL GRADES</u> | | | | | | | |
| Manitoba | 43.4 | 34.3-48.9 | 198 | 181-206 | 39.1 | 29.4-48.3 | 113 |
| Saskatchewan | 44.0 | 32.6-49.2 | 196 | 184-204 | 39.7 | 24.8-47.0 | 130 |
| Alberta | 42.3 | 38.5-47.5 | 189 | 177-198 | 43.0 | 36.2-48.0 | 36 |

NOTE: - Oil Content of seed is reported on moisture-free basis.
- Protein Content is reported on oil-free meal and moisture-free basis.

SOURCE: Canadian Grain Commission, Crop Bulletin No. 125

TABLE 64

CANADIAN EXPORTS OF LINSEED OIL

(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|----------------------|---------------|---------------|---------------|---------------|--------------|
| Bahamas | - | <u>1/</u> | <u>1/</u> | - | - |
| Barbados | 9 | 6 | 4 | - | - |
| Bermuda | 2 | 1 | 2 | - | - |
| Ecuador | - | - | - | 3 | - |
| Germany, West | - | - | 1,568 | - | - |
| Guatemala | <u>1/</u> | - | - | - | - |
| Jamaica | <u>1/</u> | - | - | - | - |
| Liberia | - | - | - | - | 4 |
| Netherlands Antilles | 3 | - | - | - | - |
| Nigeria | - | - | - | 1 | - |
| United Kingdom | 25,608 | 24,065 | 31,941 | 13,144 | 1,283 |
| United States | 2,073 | 168 | 1,851 | 213 | - |
| Venezuela | 17 | 28 | 90 | 40 | 18 |
| Total | <u>27,713</u> | <u>24,268</u> | <u>35,456</u> | <u>13,401</u> | <u>1,306</u> |
| Total Value (\$'000) | <u>2,981</u> | <u>2,421</u> | <u>3,276</u> | <u>2,314</u> | <u>655</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 65CANADIAN EXPORTS OF LINSEED OIL CAKE AND MEAL

(Thousands of Pounds)

| <u>DESTINATION</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------|---------------|---------------|---------------|---------------|-------------|
| Barbados | 170 | 1,800 | 1,800 | - | - |
| Belgium-Luxembourg | - | 678 | - | - | - |
| Denmark | - | - | 4,128 | - | - |
| Germany, West | - | 3,550 | 8,256 | - | - |
| Guyana | 80 | 5 | 11 | - | - |
| Leeward & Windward Is. | 222 | 390 | 275 | 10 | - |
| Netherlands | 9,814 | 12,111 | 6,997 | 4,130 | - |
| Netherlands Antilles | 16 | - | - | - | - |
| Trinidad & Tobago | 680 | 832 | 918 | 372 | 110 |
| United Kingdom | 16,484 | 4,986 | 10,698 | 5,100 | - |
| United States | 3,366 | 3,580 | 5,937 | 2,539 | 142 |
| Total | <u>30,830</u> | <u>27,932</u> | <u>39,020</u> | <u>12,151</u> | <u>252</u> |
| Total Value (\$'000) | <u>1,171</u> | <u>1,046</u> | <u>1,398</u> | <u>822</u> | <u>24</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 66

CANADIAN FLAXSEED PRICES^{1/}
(Crop Year)

| <u>MONTH</u> | <u>1969/70</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> |
|----------------|--------------------------------|----------------|----------------|----------------|----------------|
| | (Cents and Eighths per Bushel) | | | | |
| August | 319/2 | 269/2 | 234/6 | 305/7 | 878/7 |
| September | 322/1 | 272/3 | 226/7 | 325/4 | 885/6 |
| October | 322/6 | 263/5 | 243/2 | 357/7 | 898/6 |
| November | 305/5 | 253 | 238/4 | 353 | 1018/5 |
| December | 276/1 | 246/2 | 236/3 | 366/7 | 1060/5 |
| January | 280/5 | 244/6 | 248/7 | 436/4 | 1122/6 |
| February | 284 | 249/4 | 259 | 535/6 | 1167 |
| March | 277/6 | 251/4 | 277/6 | 483/3 | 1107 |
| April | 276/4 | 257/2 | 285 | 478 | 967/3 |
| May | 278 | 248/7 | 271/2 | 552/6 | 991/6 |
| June | 281/7 | 245/5 | 277/2 | 701/7 | 979/5 |
| July | 280 | 242 | 288/1 | 895/6 | 1095/2 |
| Yearly Average | <u>292</u> | <u>253/5</u> | <u>257/2</u> | <u>482/6</u> | <u>1014/4</u> |

^{1/} Winnipeg Grain Exchange No. 1 C.W. Flaxseed, basis Thunder Bay.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 13

OTHER INEDIBLE FATS AND OILS

For purposes of this publication, other inedible fats and oils include castor oil; tung oil; tall oil; tall oil pitch; tall oil fatty acids; chemically modified oils, fats and waxes; and mixtures and derivatives of oils, fats and waxes.

Castor oil imports, of which 80 - 90% come from Brazil, have fluctuated between 4 million and 6.4 million pounds in the past five years (Table 67). Prices varied from 15 cents per pound in 1970, 16 cents in 1971, 21 cents in 1972, 46 cents in 1973 and 40 cents in 1974.

Tung oil imports, which had been increasing steadily prior to 1974, dropped almost 2/3 in that year (Table 68). The People's Republic of China became Canada's largest supplier in 1974 displacing Argentina and Paraguay which had been the major suppliers. Prices saw a low point of 10.64 cents in 1972 but climbed to a high of 32.87 in 1974.

The United States supplies Canada with all the imports of tall oil, tall oil pitch and tall oil fatty acids except for very small amounts in 1971 and 1973 (Table 69). Prices increased steadily from 1970 to 1973, i.e. 8.54 cents per pound to 11.97 cents, but almost doubled to 22.7% in 1974.

The United States supplies Canada with 88 - 98% of the imports of chemically modified oils, fats and waxes (Table 70). The smaller, regular suppliers are the Netherlands and the United Kingdom. Prices rose steadily from 16.95 cents in 1970 to 24.34 in 1973 but almost doubled in 1974 to 43.15 cents.

The United States supplies 96 to 99% of Canada's imports of mixtures and derivatives of oils, fats and waxes (Table 71). Prices remained fairly constant between 1970 and 1973 increasing by only 1½ cents to 20.69 cents. However, in 1974 there was an approximate increase of 50% to 30.39 cents.

Canada has exported chemically modified oils, fats and waxes to twenty-two countries over the past five years, its largest customers being the United States, Japan and the United Kingdom (Table 72). Since 1972 when the United Kingdom joined the Common Market exports to that country decreased to a trickle. Prices rose steadily from 10.19 cents in 1970 to 21.52 five years later. These prices are from 50% to 100% lower than the import costs into Canada of the same category of product.

TABLE 67CANADIAN IMPORTS OF CASTOR OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Brazil | 5,984 | 5,241 | 4,461 | 5,295 | 3,372 |
| Colombia | - | - | - | 19 | - |
| United Kingdom | 13 | 4 | - | - | - |
| United States | 469 | 534 | 324 | 832 | 706 |
| Total | <u>6,466</u> | <u>5,779</u> | <u>4,785</u> | <u>6,146</u> | <u>4,079</u> |
| Total Value (\$'000) | <u>963</u> | <u>932</u> | <u>1,035</u> | <u>2,858</u> | <u>1,646</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 68CANADIAN IMPORTS OF TUNG OIL

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-------------------------------|--------------|--------------|--------------|--------------|-------------|
| Argentina | 294 | 658 | 1,288 | 2,186 | 281 |
| Brazil | - | - | - | 31 | - |
| Paraguay | 684 | 693 | 506 | 126 | 94 |
| Peoples' Republic of China | 44 | 22 | 44 | 198 | 405 |
| United States | 685 | 573 | 418 | 196 | 155 |
| Total | <u>1,707</u> | <u>1,946</u> | <u>2,256</u> | <u>2,737</u> | <u>937</u> |
| Total Value (\$'000) | <u>422</u> | <u>290</u> | <u>240</u> | <u>527</u> | <u>308</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 69CANADIAN IMPORTS OF TALL OIL, TALL OIL PITCH
AND TALL OIL FATTY ACIDS

(Thousands of Pounds)

| | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| <u>TALL OIL AND TALL OIL PITCH</u> | | | | | |
| Netherlands | - | - | - | 10 | - |
| United States | 10,958 | 4,433 | 3,479 | 3,312 | 4,970 |
| <u>TALL OIL FATTY ACIDS</u> | | | | | |
| Switzerland | - | <u>1/</u> | - | - | - |
| United States | 12,331 | 14,616 | 15,239 | 12,804 | 10,395 |
| Total | <u>23,289</u> | <u>19,049</u> | <u>18,718</u> | <u>16,126</u> | <u>15,365</u> |
| Total Value (\$'000) | <u>1,990</u> | <u>1,796</u> | <u>1,718</u> | <u>1,931</u> | <u>3,500</u> |

1/ Less than 1,000 lbs.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 70

CANADIAN IMPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|--------------|---------------|---------------|
| Brazil | - | - | - | - | 46 |
| Denmark | <u>1/</u> | 15 | 2 | 2 | - |
| France | - | 31 | <u>1/</u> | <u>1/</u> | 7 |
| Germany, West | 24 | 15 | 7 | 7 | 18 |
| Greece | - | 47 | - | - | - |
| Japan | - | - | - | 33 | - |
| Netherlands | 117 | 731 | 905 | 922 | 878 |
| United Kingdom | 75 | 97 | 67 | 924 | 122 |
| United States | 14,893 | 10,046 | 7,319 | 14,483 | 11,444 |
| Total | <u>15,109</u> | <u>10,982</u> | <u>8,300</u> | <u>16,371</u> | <u>12,517</u> |
| Total Value (\$'000) | <u>2,561</u> | <u>2,224</u> | <u>1,776</u> | <u>3,985</u> | <u>5,401</u> |

1/ Less than 1,000 lbs.

SOURCE: Statistics Canada, Catalogue 65-007

TABLE 71

CANADIAN IMPORTS OF MIXTURES AND DERIVATIVES
OF OILS, FATS AND WAXES

(Thousands of Pounds)

| <u>COUNTRY OF ORIGIN</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Belgium-Luxembourg | - | - | - | - | 2 |
| France | - | - | <u>1/</u> | - | 8 |
| Germany, West | 89 | 199 | 800 | 91 | 228 |
| Japan | 1/ | 3 | - | - | - |
| Netherlands | 2 | 5 | 2 | 6 | 4 |
| Sweden | - | - | - | 6 | - |
| United Kingdom | 129 | 313 | 436 | 325 | 146 |
| United States | 21,086 | 26,076 | 30,659 | 33,387 | 32,586 |
| Total | <u>22,026</u> | <u>26,596</u> | <u>31,897</u> | <u>33,815</u> | <u>32,977</u> |
| Total Value (\$'000) | <u>4,211</u> | <u>5,095</u> | <u>6,079</u> | <u>6,996</u> | <u>10,022</u> |

1/ Less than 1,000 lbs.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 72

CANADIAN EXPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES

(Thousands of Pounds)

| DESTINATION | 1970 | 1971 | 1972 | 1973 | 1974 |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| Australia | 1,444 | 1 | - | - | 2 |
| Bahamas | 4 | - | <u>1/</u> | - | <u>1/</u> |
| Bermuda | 3 | 3 | 1 | 1 | - |
| Brazil | - | - | - | 49 | - |
| Cuba | - | - | 38 | - | - |
| Ecuador | 3 | - | 2 | - | - |
| France | 111 | 556 | 484 | - | 72 |
| Germany, West | 119 | 22 | 482 | 97 | 53 |
| Guatemala | <u>1/</u> | <u>1/</u> | - | - | - |
| Italy | - | - | 100 | 36 | - |
| Jamaica | <u>1/</u> | - | - | - | - |
| Japan | 49 | 1,019 | 1,189 | 1,098 | 531 |
| Leeward-Windward Is. | - | 1 | - | <u>1/</u> | - |
| Netherlands Antilles | <u>1/</u> | <u>1/</u> | 3 | - | 3 |
| New Zealand | 58 | 34 | - | - | - |
| Panama | - | - | - | <u>1/</u> | - |
| Peru | - | - | 6 | - | - |
| Senegal | 23 | - | - | - | - |
| Sweden | 11 | 11 | - | - | - |
| United Kingdom | 1,663 | 2,102 | 1,295 | 43 | 80 |
| United States | 1,614 | 2,286 | 1,781 | 3,222 | 3,879 |
| Venezuela | 98 | 69 | 38 | - | 2 |
| Total | <u>5,203</u> | <u>6,104</u> | <u>5,419</u> | <u>4,546</u> | <u>4,624</u> |
| Total Value (\$'000) | <u>530</u> | <u>778</u> | <u>930</u> | <u>821</u> | <u>995</u> |

1/ Less than 1,000 lbs.

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 14

SELECTED FINISHED PRODUCTS

Canadian production of peanut butter, salad dressings and mayonnaise, and sandwich spreads has shown a steady, but unspectacular, increase during the past five years (Table 73). The larger demand comes mainly from increased population and changing life styles.

Peanut butter production in the five-year period 1970 to 1974 increased by 23%, while salad dressings and mayonnaise increased by 33% and sandwich spreads by 17%. Should inflation influence housewives toward less expensive meat alternatives, greater sales of peanut butter and sandwich spreads could be expected in the next few years.

TABLE 73

CANADIAN PRODUCTION OF PEANUT BUTTER, SALAD
DRESSINGS AND MAYONNAISE, AND SANDWICH SPREADS

(Millions of Pounds)

| <u>PRODUCT</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|
| Peanut Butter | 52.4 | 54.7 | 58.0 | 56.5 | 64.4 |
| Salad Dressings and Mayonnaise | 68.7 | 71.9 | 78.7 | 86.7 | 91.5 |
| Sandwich Spreads | 5.2 | 5.5 | 5.8 | 6.5 | 6.1 |
| Total | <u>126.3</u> | <u>132.1</u> | <u>142.5</u> | <u>159.7</u> | <u>162.0</u> |

SOURCE: Statistics Canada, Catalogue No. 32-018

CONVERSION FACTORSSTATUTORY WEIGHT PER BUSHEL AND AVERAGE VOLUME PER SHORT TON

| OILSEEDS | Pounds | Cubic Feet |
|---------------|--------|------------|
| Flaxseed | 56 | 45.9 |
| Soybeans | 60 | 42.8 |
| Rapeseed | 50 | 51.4 |
| Sunflowerseed | 30 | 85.7 |
| Mustardseed | - | 51.4 |

| OILSEED PRODUCTS | Extraction Rate | Yield Per Bushel | Weight of Gallon |
|--|-----------------|------------------|------------------|
| | (Per Cent) | (Pounds) | (Pounds) |
| Flaxseed, Oil | 35.4 | 19.8 | 9.3 |
| Linseed Meal | 61.7 | 34.6 | - |
| Soybeans, Oil | 17.7 | 10.6 | 9.2 |
| Meal | 80.0 | 47.3 | - |
| Rapeseed, Oil ^{1/} | 40.0 | 20.0 | 9.1 |
| Meal | 57.5 | 28.75 | - |
| Sunflowerseed, Oil ^{2/} | 40.0 | 12.0 | 9.2 |
| Meal | 38.0 | 11.4 | - |
| Mustard Seed, ^{3/} Oil (yellow) | 28 | - | - |
| Oil (Oriental) | 40 | - | - |
| Oil (Brown) | 36 | - | - |

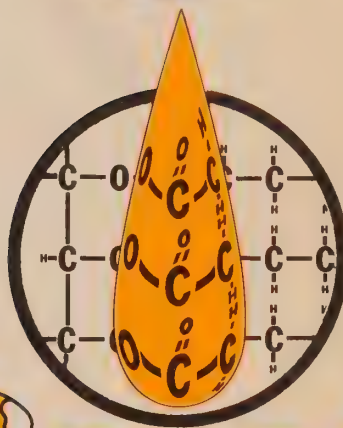
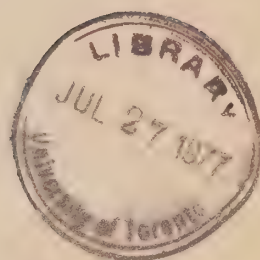
- ^{1/} Rapeseed oil yields seem to have reached a fairly stable level of about 40 per cent on an "as received" basis. The previous factor of 37.5 per cent has been changed accordingly.
- ^{2/} The introduction of new sunflowerseed varieties has increased the oil yield on crushing to the 40 per cent level. The previous factor of 36 per cent has been changed accordingly. The meal yields continue to show fluctuations, and this factor has not been changed.
- ^{3/} Mustardseed is not crused in Canada, and is primarily used for condiment purposes. Yellow, oriental and brown mustard-seed varieties are grown in Canada, and the theoretical extraction rates reflect average oil contents of the seed, calculated on a dry basis.

OTHER PRODUCTS: Marine Oils: 1 Imperial gallon = 9.25 lbs.

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Publications



Fats & Oils in Canada

ANNUAL REVIEW 1975

DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE

FATS AND OILS IN CANADA

ANNUAL REVIEW

June 1976

Prepared By:

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INTRODUCTION

"Fats and Oils in Canada - Annual Review 1975" represents the third annual issue of the publication. No issues were published for the years 1970 to 1973 inclusive. This year the tables list quantities in metric tons in preparation for the adoption of the metric system by the Canadian grain and oilseed industry.

The feature article in this issue is written by Dr. Baldur Stefansson, University of Manitoba and deals with the development, current and future outlook for Tower rapeseed. Tower is the first representative of an improved rapeseed which will become a new standard of quality for the product. Dr. Stefansson was the co-discoverer and developer of Tower with Dr. Keith Downey, Agriculture Canada, Saskatoon. The Department joins with the readers of this publication in thanking Dr. Stefansson for this current update and look into the future for Canada's oilseed development.

The statistical data contained in the publication have been obtained from Statistics Canada, Environment Canada, Canadian Grain Commission, United States Department of Agriculture, and Oil World. The tables resulting from these data have been grouped into related product areas to permit ease of consideration. The total figures in the tables, particularly those dealing with imports and exports, have been rounded which accounts for any apparent discrepancies in the totals.

"Fats and Oils in Canada - Annual Review 1975" is intended to be a working document for people concerned with the development of the Canadian fats and oils industry. Suggestions and comments on this publication are welcome and should be addressed to:

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CHAPTER 1

TOWER SUMMER RAPE A MAJOR STEP IN THE DEVELOPMENT OF HIGH QUALITY RAPESEED

By

B. R. Stefansson

Canada has become the world's leading exporter of rapeseed and is playing a leading role in improving the quality of the product. The isolation of rape strain with seed oil practically free from erucic acid (Stefansson et al., 1961) which took place in Canada more than a decade ago, indicated that commercial varieties with this characteristic could be developed. Varieties which produce the new rapeseed oils were developed in response to serious questions concerning the role of long chain fatty acids, such as erucic, in nutrition (Vles, 1974). These new rapeseed oils contain only those fatty acids found in oils traditionally used for edible purposes. In 1975, practically all the rapeseed produced in Canada was of the low erucic acid type, the average erucic acid value for the entire crop was only 3.1%. Thus, the new improved product constitutes the bulk of Canadian rapeseed available for domestic and export markets.

Rapeseed which incorporates a second major improvement, low glucosinolate content, is becoming available in substantial quantities; approximately a half million acres of this kind of rapeseed were grown in Canada in 1975. This new class of rapeseed, thus far represented by a single variety, Tower, is often called "double low" rapeseed in Canada. Another name for the new improved product has been suggested in Germany; it is "Quality Rapeseed".

The residue which remains after the oil has been extracted from rapeseed is used as a protein supplement in animal rations. The amino acid balance in rapeseed protein is excellent; the levels of lysine are nearly equivalent to those of soybean protein, and methionine levels are substantially higher than in soybean protein. The availability of quantities of rapeseed and knowledge of the excellent nutritional properties of rapeseed protein has stimulated research directed toward developing high quality protein products from rapeseed for human use. Results of a feeding trial with low-glucosinolate rapeseed flour made at the Food Research Institute at Ottawa are extremely encouraging (Table I). The growth performance of rats fed the rapeseed

flour was excellent and the protein efficiency ratio (PER) for rapeseed protein was higher than for the milk protein, casein.

TABLE I

EVALUATION OF PROTEIN FROM TOWER RAPESEED FLOUR

| | <u>Food Consumed</u> <u>g/4 wk.</u> | <u>Weight Gain</u> <u>g/4 wk.</u> | <u>PER</u> <u>corr.</u> | <u>Thyroid Weight</u> <u>mg/100 g body wt.</u> |
|-----------|--|--------------------------------------|----------------------------|---|
| Casein | 381.1 \pm 8.6 | 142.5 \pm 4.5 | 2.50 \pm 0.03 | 8.57 \pm 0.82 |
| Tower RSF | 383.6 \pm 9.6 | 150.7 \pm 4.8 | 2.63 \pm 0.03 | 6.45 \pm 0.19 |

SOURCE: Jones, J.D., Food Research Institute, Ottawa.

While rapeseed protein is known to be of high nutritional quality, the use of rapeseed meal in rations for non-ruminant animals (hogs, poultry) has been limited to relatively low levels due to minor constituents, known as glucosinolates. These glucosinolates impart the characteristic sharp taste to many products from the mustard family, such as turnips, radishes and mustard. The large number of unfavourable results which have been obtained when rapeseed meal was fed to animals have been attributed to the glucosinolates, or more correctly, to the aglycons which result from the breakdown of glucosinolates. Intact glucosinolates are essentially innocuous, while the breakdown products (nitriles, isothiocyanates and oxazolidinethione) are detrimental. Unfavourable effects attributed to these compounds include reduced feed intake, reduced feed efficiency, enlargement of the thyroid gland and an effect on the liver, especially in avian species.

The possibility of solving the problems associated with glucosinolates in rapeseed through changes in processing has been investigated intensively (Anjou, 1962). The glucosinolates can be neutralized or extracted from rapeseed in several different ways, but unfortunately most of the methods are too costly for large-scale use in the production of rapeseed meal. A process which involves heating of the seed prior to crushing (Reynolds and Youngs, 1964) has been adopted by Canadian rapeseed crushers (Beach, 1975). This process improves the quality of rapeseed meal by reducing the activity of enzymes which facilitate breakdown of glucosinolates, thereby reducing the proportion of nitriles and other breakdown products in rapeseed meal. This industrial process has been essential for the relatively high utilization of rapeseed meal in animal rations in Canada.

It has been obvious for some time that the best solution for the glucosinolate problem in rapeseed is to eliminate the component from rapeseed by plant breeding. This task could not be prosecuted successfully until a rapid method of analysis suitable for large numbers of small samples was developed (Youngs and Wetter, 1967). Use of this method of analysis led to the discovery of a genetically controlled source of low glucosinolates in the summer rape variety, Bronowski (*Brassica napus*) at Saskatoon in the same year (1967). Unfortunately this variety was not suitable for commercial production of rapeseed and it was necessary to undertake the laborious task of transferring the low glucosinolate characteristic into varieties suitable for commercial production in Canada. Such strains had been developed, tested and were near release in 1970. However, at this time it became necessary to add the low erucic acid characteristic to the combination of characteristics required in commercial varieties. This task was pursued with vigour and Tower, the first variety of the low erucic and low glucosinolate type, was licenced in Canada in 1974 (Stefansson, 1975). In the spring of that year, one million pounds of seed were distributed to producers and, in 1975, the new variety occupied about 500,000 acres, or about 12% of the rapeseed acreage in Canada.

Large-scale evaluation of rapeseed meal from low glucosinolate rapeseed began when sufficient quantities of seed and meal became available in the autumn of 1974. Feeding trials now in progress involve cattle, hogs and poultry. Preliminary results generally are quite favourable. The reduction of glucosinolate content of rapeseed by the introduction of Tower, to levels about one-tenth of those found in older varieties of the same species, has ameliorated or eliminated most of the animal feeding problems that had been associated with rapeseed meal. Data from a large number of experiments will be published soon. In the meantime, preliminary data from experiments with poultry (Tables II and III), dairy cows (Table IV) and pigs (Bowland, 1975) provide an indication of the favourable results which are being obtained. The indications are that meal from low glucosinolate rapeseed can be utilized in diets for cattle, hogs and poultry at levels at least double the levels currently recommended in Canada.

TABLE II

EFFECT OF SOYBEAN MEAL AND TOWER RAPESEED MEAL ON LAYERS

| <u>Rations</u> | | | | | <u>Hen-Housed Production</u> | <u>Average Egg Weight</u> gms. | <u>Kg. Feed/ Doz. Eggs</u> | <u>Mortality</u> % |
|--------------------------|---|---|---|-----|----------------------------------|---------------------------------------|--------------------------------|-----------------------|
| Control Soybean Meal | | | | | 83 | 56.8 | 1.80 | 1.8 |
| Tower A Rapeseed Meal 5% | | | | | 83 | 57.4 | 1.76 | 4.4 |
| " | A | " | " | 10% | 85 | 56.9 | 1.72 | 1.8 |
| " | B | " | " | 5% | 85 | 56.8 | 1.75 | 0.4 |
| " | B | " | " | 10% | 85 | 56.6 | 1.73 | 1.4 |

SOURCE: Clandinin, D.R. and A.R. Robblee, University of Alberta.

TABLE III

EFFECT OF SOYBEAN MEAL, TARGET AND TOWER RAPESEED MEAL ON BROILERS

| <u>Rations</u> | | | | | <u>Average Weight at 4 weeks</u> gms. | <u>Feed/Gain</u> |
|-------------------------------|---|---|---|-----|--|------------------|
| Control Corn and Soybean Meal | | | | | 616 | 1.66 |
| Tower Rapeseed Meal at 10% | | | | | 648 | 1.66 |
| Tower | " | " | " | 20% | 658 | 1.60 |
| Tower | " | " | " | 40% | 601 | 1.68 |
| Target | " | " | " | 40% | 567 | 1.63 |

SOURCE: Slinger, S.J., University of Guelph.

TABLE IV

EFFECT OF TOWER RAPESEED MEAL AND SOYBEAN MEAL
ON THE MILK PRODUCTION OF DAIRY COWS

| | <u>Soybean Meal</u> | <u>Tower Rapeseed Meal 25%</u> |
|------------------------|---------------------|------------------------------------|
| Grain Intake (lbs.) | 21.5 | 21.7 |
| Total Intake (lbs.) | 45.1 | 44.6 |
| Milk Production (lbs.) | 47.2 | 47.9 |
| Milk Fat (%) | 3.8 | 3.7 |

SOURCE: Ingalls, J.R. and H.R. Sharma, University of Manitoba.

The entire Canadian rapeseed crop cannot be converted to the new "Quality Rapeseed" until double low varieties of turnip rape (the other commercial species, Brassica campestris, used for rapeseed production in Canada) become available. Double low strains of this species, developed by plant breeders, are in advanced stages of testing, and will be released as soon as agronomic performance is satisfactory. In the meantime, the average glucosinolate content of Canadian rapeseed can be expected to decrease, domestic crushers can crush low glucosinolate rapeseed, and identity-preserved lots of "quality rapeseed" can be made available to importers who may want to test the product.

While rapeseed from double low varieties, such as Tower, is a major step toward the development of high quality rapeseed, it does not include all improvements which now are possible. A number of genetically controlled variants have been identified in the breeding programs now in progress which indicate that further substantial improvements in the quality of rapeseed will be made. The erucic acid and glucosinolate levels in rapeseed can be reduced to extremely low levels; less than 0.05% for erucic acid and less than 0.1 mg/g for glucosinolates. When these low glucosinolate levels become commercially available in the form of new varieties, the need for heat treatment in the crushing process may be reduced and the rapeseed protein, not denatured by heat, may become more useful in applications where the functional properties of the protein are needed. The hull of yellow rapeseed is thinner than the hull of dark coloured seeds. Therefore, the fibre content of yellow seeds is approximately 30% lower than the fibre content of dark seeds. For this reason, plant breeders are developing varieties with yellow seed coat colour. A reduction in the percentage of a useless or even negative component, such as fibre, will be accompanied by percentage increases in valuable components such as oil and protein. These and other characteristics now being incorporated into Canadian rapeseed varieties will ensure continued improvement in the quality of Canadian rapeseed.

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CHAPTER 2

WORLD PRODUCTION AND TRADE IN OILSEEDS, FATS, OILS AND MEALS

World Production of Oils and Fats

The world production of oils and fats declined in 1975 by one million metric tons as compared to 1974 (Table 1). The projected 1976 production of oils and fats at 48.6 million metric tons is 2.85 million metric tons above the preliminary estimate of the 1975 production, then continuing to show the upward trend which has been evident since 1970.

The projected 1976 increase in the production of soft oils of 2.2 million metric tons results from the increased world demand for protein meals which in turn results in increased soybean oil production.

In the palm and lauric oil sector, production continues to increase as palm and coconut plantations mature. Since 1970 production has increased by 65% with an average annual increase of 9.3%.

The 1975 decline in the production of industrial oils results from a general worldwide recession, coupled with relatively high prices which have decreased the demand for industrial oils.

The world production of animal fats has remained fairly constant since 1970 and continues to show no significant trend. This also appears to be the situation with regard to marine oils.

World Production of Selected Oilseed Meals and Fish Meal

The production of oilseed meals continues to increase. The projected production in 1975/76 of 67.8 million metric tons is 10.9 million metric tons higher than the 1971/72 production (Table 2). A modest recovery from the 1974/75 economic recession has resulted in an increase in the number of livestock and poultry on feed, thereby increasing the demand for protein meal. Soybean meal production in Brazil and the United States mainly accounts for the increased production of oilseed meals.

Fish meal and solubles production is expected to decline by 190,000 metric tons in 1975/76 compared to the 1974/75 production, primarily due to the uncertainty of anchovy fishing off Peru.

World Net Exports of Oilseeds, Oils and Fats

In the oilseed sector the world net export availability in 1975/76 of 31.3 million metric tons is almost 12 million metric tons higher than in 1974/75 (Table 3). This large increase in availability is accounted for by the increase in production of Brazilian and U.S. soybeans.

The export availability of oils and fats in the food sector is expected to increase by 581,000 metric tons in 1975/76 over 1974/75 continuing an upward trend which has been evident since 1972/73. Increased availability of olive, soybean and peanut oils are mainly responsible for the increase.

In the non-food sector increased production of castor oil accounts for most of the increased export availability of 94,000 metric tons in 1975/76 over 1974/75.

World Net Exports and Availabilities of Oilmeals

World net exports of oilmeals on an actual weight basis are estimated to increase in 1975/76 by 3.13 million metric tons over 1974/75 (Table 4). Soybean meals continue to dominate the world oilseed meal market.

The net exports of fish meal on an actual weight basis in 1975/76 are estimated at 282,000 metric tons less than 1974/75 due largely to the uncertainty of anchovy fishing off Peru.

TABLE 1

WORLD PRODUCTION OF OILS AND FATS (OIL OR FAT EQUIVALENT)
ANNUAL 1970-75 AND 1976 PROJECTIONS^{1/}

| Commodity | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 ^{2/} | 1976 |
|------------------------------|--------|--------|--------|--------|--------|--------------------|--------|
| (Thousands of Metric Tons) | | | | | | | |
| EDIBLE VEGETABLE OILS: | | | | | | | |
| Cottonseed | 2,621 | 2,636 | 2,860 | 3,006 | 3,149 | 3,203 | 2,940 |
| Peanut | 3,271 | 3,368 | 3,518 | 2,924 | 3,009 | 3,039 | 3,400 |
| Soybean | 6,066 | 6,238 | 6,719 | 7,362 | 9,173 | 8,105 | 9,810 |
| Sunflower | 3,802 | 3,612 | 3,637 | 3,576 | 4,508 | 3,972 | 3,755 |
| Rapeseed | 1,878 | 2,476 | 2,556 | 2,396 | 2,396 | 2,490 | 2,700 |
| Sesame | 591 | 721 | 655 | 616 | 637 | 660 | 677 |
| Safflower | 211 | 226 | 300 | 239 | 212 | 226 | 335 |
| Olive ^{3/} | 1,245 | 1,452 | 1,559 | 1,445 | 1,535 | 1,379 | 1,640 |
| Corn | 277 | 280 | 287 | 303 | 303 | 284 | 305 |
| Total | 19,962 | 21,009 | 22,091 | 21,867 | 24,922 | 23,358 | 25,562 |
| PALM OILS ^{4/} : | | | | | | | |
| Coconut | 2,135 | 2,434 | 2,792 | 2,414 | 2,100 | 2,650 | 2,855 |
| Palm Kernel | 439 | 462 | 455 | 434 | 484 | 513 | 535 |
| Palm | 1,715 | 1,907 | 2,143 | 2,250 | 2,594 | 2,909 | 3,224 |
| Babassu Kernel ^{5/} | 85 | 72 | 107 | 105 | 105 | 105 | 96 |
| Total | 4,374 | 4,875 | 5,497 | 5,203 | 5,283 | 6,177 | 6,710 |
| INDUSTRIAL OILS: | | | | | | | |
| Linseed | 1,110 | 1,245 | 870 | 730 | 792 | 795 | 844 |
| Castor | 373 | 348 | 322 | 412 | 490 | 400 | 410 |
| Oiticica | 18 | 20 | 14 | 1 | 11 | 11 | 11 |
| Tung | 130 | 141 | 140 | 96 | 128 | 102 | 115 |
| Olive Residue ^{6/} | 117 | 132 | 130 | 139 | 165 | 141 | 160 |
| Total | 1,748 | 1,886 | 1,476 | 1,378 | 1,586 | 1,449 | 1,540 |

TABLE 1 (Cont'd)

WORLD PRODUCTION OF OILS AND FATS (OIL OR FAT EQUIVALENT)
ANNUAL 1970-75 AND 1976 PROJECTIONS^{1/}

(Thousands of Metric Tons)

| Commodity | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 ^{2/} | 1976 |
|------------------------|--------|--------|--------|--------|--------|--------------------|--------|
| ANIMAL FATS: | | | | | | | |
| Butter (fat content) | 4,114 | 4,097 | 4,375 | 4,525 | 4,477 | 4,520 | 4,520 |
| Lard ^{7/} | 4,126 | 4,428 | 4,387 | 4,256 | 4,459 | 4,325 | 4,300 |
| Tallow and Greases | 4,354 | 4,579 | 4,528 | 4,434 | 4,924 | 4,700 | 4,700 |
| Total | 12,594 | 13,104 | 13,290 | 13,215 | 13,860 | 13,545 | 13,520 |
| MARINE OILS: | | | | | | | |
| Whale | 70 | 70 | 65 | 55 | 40 | 45 | 45 |
| Sperm Whale | 140 | 135 | 125 | 125 | 120 | 115 | 115 |
| Fish (including liver) | 1,038 | 1,170 | 930 | 805 | 990 | 1,025 | 1,075 |
| Total | 1,248 | 1,375 | 1,120 | 985 | 1,150 | 1,185 | 1,235 |
| Grand Total | 39,926 | 42,249 | 43,474 | 42,648 | 46,801 | 45,714 | 48,567 |

1/ Years indicated are those in which the predominant share of the given oil was produced.
2/ Preliminary.

3/ Excludes olive residue oil.

4/ Estimated on the basis of exports and information available on consumption in the various producing area.

5/ Mill Production 1965 only.

6/ Includes quantities of refined oil for edible purposes.

7/ Revised series. Rendered lard only in most countries, total includes estimate around 500,000 for China.

SOURCE: United States Department of Agriculture, FOP 8/75

TABLE 2

WORLD PRODUCTION OF SELECTED OILSEED MEALS & FISH MEAL

(Thousands of Metric Tons)

| <u>OILSEED MEALS</u> ^{1/} | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> ^{2/} | <u>1974/75</u> ^{2/} | <u>1975/76</u> ^{2/} |
|---|----------------|----------------|------------------------------|------------------------------|------------------------------|
| Soybean Meal | 31,366 | 33,068 | 38,480 | 36,772 | 42,580 |
| Cottonseed Meal | 8,845 | 9,469 | 9,504 | 9,596 | 8,790 |
| Peanut Meal | 4,107 | 3,458 | 3,560 | 3,559 | 4,075 |
| Sunflower Meal (c) (d) | 4,152 | 3,983 | 4,856 | 4,394 | 3,890 |
| Rapeseed Meal (a) | 3,743 | 4,000 | 3,868 | 3,894 | 4,210 |
| Sesame Meal | 817 | 771 | 767 | 750 | 745 |
| Copra Meal | 1,581 | 1,465 | 1,221 | 1,439 | 1,630 |
| Palm Kernel Meal | 545 | 491 | 509 | 560 | 595 |
| Linseed Meal | 1,711 | 1,502 | 1,293 | 1,155 | 1,300 |
| TOTAL | 56,857 | 58,207 | 64,068 | 62,119 | 67,815 |
| Fish Meal & Solubles (b) (f) (g) (i) (h) | 4,759 | 3,761 | 4,044 | 4,360 | 4,170 |
| WORLD TOTAL | 61,626 | 61,968 | 68,102 | 66,479 | 71,985 |

NOTE: (a) Including mustard meal.

(b) Corpesca data, excluding minor meals.

(c) Might include small amounts of other meals.

(d) Excluding small amounts produced on farms in Rumania.

(f) Excluding Faeroe Islands.

(g) Solubles included at 50% of weight.

(h) Including scrap cake and fish scrap cake from waste; solubles included at 48% of weight.

(i) Excluding whale meal where separable.

^{1/} Crop year - October/September.^{2/} Preliminary

SOURCE: "Oil World", Hamburg, February 20, 1976.

TABLE 3

WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS

(Thousands of Metric Tons)

| OILSEEDS | 1972/73 | 1973/74 | 1974/75 ^{1/} | 1975/76 ^{2/} |
|---------------------------|---------------------------------|---------|-----------------------|-----------------------|
| | (Crop Year - October/September) | | | |
| Soybeans | 14,757 | 17,566 | 15,435 | 26,480 |
| Cottonseed | 307 | 298 | 227 | 209 |
| Peanut (for crush only) | 459 | 451 | 434 | 500 |
| Sunflowerseed | 430 | 372 | 287 | 400 |
| Rapeseed | 1,782 | 1,265 | 1,047 | 1,620 |
| Sesame | 275 | 259 | 250 | 261 |
| Copra | 1,155 | 597 | 978 | 1,047 |
| Palm Kernels | 345 | 361 | 342 | 345 |
| Linseed | 607 | 409 | 296 | 368 |
| Castor Beans | 105 | 106 | 85 | 100 |
| TOTAL | 20,222 | 21,684 | 19,381 | 31,330 |
| OILS AND FATS | | | | |
| Soybean Oil | 596 | 702 | 669 | 975 |
| Cotton Oil | 348 | 327 | 401 | 346 |
| Peanut Oil | 474 | 341 | 309 | 482 |
| Sunflower Oil | 581 | 708 | 693 | 508 |
| Rapeseed Oil | 384 | 241 | 384 | 289 |
| Olive Oil ^{3/} | 328 | 231 | 193 | 431 |
| Coconut Oil | 606 | 583 | 709 | 793 |
| Palm Kernel Oil | 187 | 205 | 235 | 262 |
| Palm Oil | 1,186 | 1,291 | 1,860 | 1,881 |
| Butter (fat cont.) | 748 | 850 | 724 | 825 |
| Lard | 468 | 525 | 546 | 497 |
| Fish Oil | 532 | 596 | 525 | 540 |
| TOTAL, PRIMARILY FOOD | 6,438 | 6,600 | 7,248 | 7,829 |
| Linseed Oil | 228 | 158 | 150 | 175 |
| Castor Oil | 173 | 204 | 130 | 212 |
| Tung Oil | 60 | 50 | 47 | 38 |
| Tallow & Greases | 1,529 | 1,614 | 1,543 | 1,539 |
| TOTAL, PRIMARILY NON-FOOD | 1,990 | 2,026 | 1,870 | 1,964 |

^{1/} Preliminary.^{2/} Export availabilities^{3/} Includes residue oil.

SOURCE: "Oil World", Hamburg, December 12, 1975.

TABLE 4

WORLD NET EXPORTS AND AVAILABILITIES OF OILMEALS
(Thousands of Metric Tons)

| Actual Weight | A. Net Export Availabilities | | | | B. Actual Net Exports | | | |
|------------------------------|------------------------------|-----------------------|-----------------------|-----------------------|--|-----------------------|-----------------------|-----------------------|
| | 1972/73 ^{2/} | 1973/74 ^{2/} | 1974/75 ^{2/} | 1975/76 ^{2/} | 1972/73 (Crop Year - October/September) | 1973/74 ^{1/} | 1974/75 ^{1/} | 1975/76 ^{2/} |
| <u>Oilseed Meals</u> | | | | | | | | |
| Soybean | 18,130 | 22,700 | 21,900 | 28,600 | 18,027 | 20,385 | 19,412 | 22,000 |
| Cottonseed | 1,735 | 1,215 | 1,140 | 993 | 1,692 | 1,126 | 1,047 | 930 |
| Groundnut | 1,880 | 1,440 | 1,330 | 1,612 | 1,835 | 1,359 | 1,215 | 1,450 |
| Sunflower | 730 | 500 | 460 | 536 | 706 | 467 | 427 | 500 |
| Rapeseed | 1,320 | 915 | 760 | 1,048 | 1,172 | 862 | 643 | 850 |
| Sesame | 190 | 178 | 170 | 171 | 185 | 172 | 162 | 165 |
| Copra | 1,090 | 775 | 1,020 | 1,081 | 1,065 | 763 | 990 | 1,060 |
| Palm Kernel | 465 | 530 | 550 | 568 | 445 | 517 | 527 | 550 |
| Linseed | 900 | 685 | 640 | 655 | 825 | 616 | 578 | 590 |
| Unspecified (c) | 835 | 780 | 690 | 732 | 825 | 762 | 672 | 710 |
| Total | 27,275 | 29,718 | 28,660 | 35,996 | 26,777 | 27,029 | 25,673 | 28,805 |
| Fish Meal | 1,400 | 1,560 | 2,170 | 1,845 | 1,396 | 1,380 | 2,092 | 1,810 |
| Grand Total | 28,675 | 31,278 | 30,830 | 37,841 | 28,173 | 28,409 | 27,765 | 30,615 |
| Excess of A. over B. | 502 | 2,869 | 3,065 | 7,226 | | | | |
| <u>Raw Protein Basis (b)</u> | | | | | | | | |
| <u>Oilseed Meals</u> | | | | | | | | |
| Soybean | 8,158 | 10,215 | 9,745 | 12,870 | 8,112 | 9,173 | 8,638 | 9,900 |
| Cottonseed | 659 | 462 | 433 | 377 | 643 | 428 | 398 | 353 |
| Groundnut | 902 | 691 | 638 | 774 | 881 | 652 | 583 | 695 |
| Sunflowerseed | 270 | 185 | 170 | 198 | 261 | 173 | 158 | 185 |
| Rapeseed | 449 | 311 | 258 | 356 | 398 | 293 | 219 | 289 |
| Sesame | 76 | 71 | 68 | 68 | 74 | 69 | 65 | 66 |
| Copra | 229 | 163 | 214 | 227 | 224 | 160 | 208 | 223 |
| Palm Kernel | 79 | 90 | 93 | 97 | 76 | 88 | 90 | 93 |
| Linseed | 297 | 226 | 211 | 216 | 272 | 203 | 191 | 195 |
| Unspecified (c) | 308 | 289 | 255 | 271 | 305 | 282 | 249 | 263 |
| Total | 11,427 | 12,703 | 12,085 | 15,454 | 11,246 | 11,521 | 10,799 | 12,263 |
| Fish Meal | 910 | 1,014 | 1,410 | 1,200 | 907 | 897 | 1,360 | 1,176 |
| Grand Total | 12,337 | 13,717 | 13,495 | 16,654 | 12,153 | 12,418 | 12,159 | 13,439 |

TABLE 4 (Cont'd)

NOTE: (a) Of countries being net exporters of the respective meal and seed combined.

(b) Average raw protein content of oil cake/expeller/meal. Oilseeds are converted into crude oil and oilmeals, and the latter into raw protein basis, at the following percentage rates:

| | <u>Crude Oil</u> | <u>Oilmeal</u> | <u>Raw Protein Content of Meal</u> |
|---------------------|------------------|----------------|--|
| Soybeans | 18(c) | 79.5(a) | 45(f) |
| Cottonseed | 17.5 | 59(b) | 38 |
| Groundnuts, shelled | 44.5 | 55 | 48 |
| Sunflowerseed | 42(e) | 53(b, e) | 37 |
| Rapeseed | 38.5(d) | 59(d) | 34 |
| Sesameseed | 47 | 52 | 40 |
| Copra | 63.5 | 36 | 21 |
| Palm Kernels | 46.5 | 52.5 | 17 |
| Linseed | 34 | 63 | 33 |
| Castor Beans | 45 | - | - |
| Other Oilseeds | 33 | 60 | 37 |
| Fish Meal | - | - | 65 |

(a) Mostly including hull meal. (b) Partly including hulls.

(c) Up to 30 September 1973: 17.5%. (d) Up to 31 December 1972: 40% for the oil and 57% in the case of meal. (e) Up to 31 December 1971: 44% for the oil and 55% for the meal. (f) Oct./Sept. 74/75: 44.5%.

(c) Except castor bean.

1/ Preliminary.

2/ Estimated.

SOURCE: "Oil World", Hamburg, December 12, 1975.

CHAPTER 3

CANADIAN PRODUCTION AND TRADE IN OILSEEDS, FATS, OILS AND MEALS

Canadian Production of Fats and Oils

Canadian production of edible vegetable oils declined slightly in 1975 compared to 1974 but remained well above the average of the previous four years (Table 5). Soybean oil production declined in 1975 by 12,000 metric tons. To some extent this resulted from the loss of the Commonwealth preferential tariff in the U.K. market which reduced the demand for imports of soybean oil from Canada. Rapeseed oil production rose by 11,900 metric tons because of increased Canadian crushing capacity. As will be noted later, this increase refers to the calendar year 1975 rather than to the crop year 1974/75. Sunflowerseed oil production has been in decline since 1972 due to fluctuations in the production of oil producing varieties of sunflowerseed.

In contrast to edible vegetable oils, production of animal fats increased by 10,000 metric tons in 1975 over 1974 because of a 20% increase in butter production, then continuing the upward trend which has been evident since 1972.

The decrease in marine oil production reflects declining fish stocks and generally lower activity in the fishing industry.

In the inedible oil sector no statistics are published for linseed oil production because of the secrecy requirements of the Statistics Act, but it is obvious that linseed oil production has been decreasing since 1972.

In general, total Canadian production of edible and inedible oils and fats has remained fairly constant over the past five years, varying from 600,000 metric tons to 650,000 metric tons.

Canadian Imports of Fats and Oils

Canadian imports of vegetable oils in the primary edible oil sector in 1975 were well above the previous four

year average (Table 6). Imports of low-priced, duty-free, palm, coconut and palm kernel oils accounted for the increase.

Importations of animal fats in 1975 declined significantly from the previous two years no doubt as a result of increased Canadian production, particularly of butter. Imports of marine oils remained essentially at the same level in 1975 as in 1974 but this was significantly lower than in 1971-1973.

Imports of inedible oils and fats continued the decline which began in 1972 reflecting a slowdown in industrial activity due to the economic recession.

Canadian Exports of Fats and Oils

Exports of edible vegetable oils increased slightly in 1975 over 1974 but were well below exports in 1971, 1972 and 1973, reflecting increased competition from competing oilseeds and oils as well as reduced demand due to a worldwide economic recession. Rapeseed and rapeseed oil accounted for the increase (Table 7). Soybeans and soybean oil exports decreased sharply due to the loss of the preferential tariff in the U.K.

Animal fat exports remained negligible. Marine exports declined sharply as a result of decreased activity in the fishing industry.

In the inedible sector exports continued the decline which began in 1971. Flaxseed and linseed oil have been mainly responsible for the decline in exports due to decreased worldwide industrial activity.

Canadian Oilseeds: Acreage, Yield, Production

Since the peak year of 1971 rapeseed acreage has stabilized between three to four million acres. Yields per acre which declined from 1972 to 1974, have improved in 1975 because of the introduction of new higher yielding varieties of low erucic acid rapeseed (Table 8).

Soybean acreage has remained relatively stable since 1971. Production is generally restricted to southwestern Ontario because most other areas of Canada do not have sufficient heat units for crop maturity. The acreage is not expected to expand significantly until varieties with a wider heat unit range are developed.

Flaxseed acreage has declined since 1971 in response to a decrease in world demand caused by a slowdown in industrial activity and increased utilization of other oils for industrial applications.

Mustardseed and sunflowerseed are relatively minor crops and are mostly grown under contract. The acreage of mustardseed dropped sharply in 1975 since the returns to the producer were below that which could be attained from cereal grain production.

New varieties of sunflowers are required (i.e. earlier maturing, increased oil content) if sunflower is to become a significant oilseed crop in western Canada.

Canadian Crashings of Vegetable Oilseeds and Production of Oil and Meal by Crop Year

Despite a doubling of crushing capacity in the period 1969 to 1975 rapeseed crushing declined by 58,500 metric tons in 1974/75 as compared to 1973/74 (Table 10). This resulted in a reduction of rapeseed oil production for the crop year 1974/75 of 17,100 metric tons. It should be noted, however, that for the calendar year 1975, rapeseed oil production was 11,900 metric tons greater than in the calendar year 1974. Rapeseed oil in 1974/75 was uncompetitively priced relative to competing vegetable oils, consequently both domestic and foreign demand decreased resulting in a decreased crush.

Canadian crashings of soybeans have remained relatively constant over the past five years in volume of crush, oil and meal production.

The flaxseed crush is not reported in 1974/75 because of the secrecy requirements of the Statistics Act but the crush has been declining rapidly since 1971/72 due to reduced demand for industrial oils.

Crushing of sunflowerseed has declined because of reduced domestic seed production.

TABLE 5

CANADIAN PRODUCTION OF FATS AND OILS

(Metric Tons)

| | <u>1 9 7 1</u> | <u>1 9 7 2</u> | <u>1 9 7 3</u> | <u>1 9 7 4</u> | <u>1 9 7 5</u> |
|--------------------------------------|----------------|----------------|----------------|------------------|------------------|
| <u>PRIMARILY EDIBLE^{1/}</u> | | | | | |
| <u>VEGETABLE OILS</u> | | | | | |
| Soybean Oil ^{2/} | 111,563 | 103,352 | 91,421 | 122,417 | 113,106 |
| Rapeseed Oil ^{3/} | 86,776 | 115,212 | 144,580 | 112,873 | 124,773 |
| Sunflowerseed Oil ^{4/} | 8,304 | 13,033 | 13,233 | 7,913 | 3,172 |
| <u>TOTAL^{5/}</u> | <u>206,643</u> | <u>231,597</u> | <u>249,234</u> | <u>243,203</u> | <u>241,051</u> |
| <u>ANIMAL FATS</u> | | | | | |
| Edible Tallow | 17,593 | 19,860 | 18,476 | 16,883 | 17,000 |
| Lard | 62,827 | 55,117 | 50,415 | 50,216 | 43,240 |
| Butter (as butter oil) ^{6/} | 108,791 | 110,355 | 80,096 | 88,258 | 106,425 |
| <u>TOTAL</u> | <u>189,211</u> | <u>185,332</u> | <u>148,987</u> | <u>155,357</u> | <u>166,665</u> |
| <u>MARINE OILS</u> | | | | | |
| Herring | 21,761 | 12,834 | 11,732 | 7,122 | 5,044 |
| Seal | 1,216 | 1,505 | - | - | - |
| Whale ^{7/} | 2,590 | 2,739 | 283 | - | - |
| Other ^{8/} | - | - | - | 428 | 44 |
| <u>TOTAL^{9/}</u> | <u>25,567</u> | <u>17,078</u> | <u>12,015</u> | <u>7,550</u> | <u>5,088</u> |
| <u>TOTAL EDIBLE OIL</u> | | | | | |
| <u>PRODUCTION</u> | <u>421,421</u> | <u>434,007</u> | <u>410,236</u> | <u>406,110</u> | <u>412,804</u> |
| <u>PRIMARILY INEDIBLE</u> | | | | | |
| Linseed Oil ^{10/} | 25,941 | 27,912 | 13,572 | X ^{11/} | X ^{11/} |
| Inedible Tallow | 182,013 | 183,693 | 186,003 | 182,727 | 182,491 |
| Marine Oils ^{12/} | 4,568 | 3,439 | 925 | 2,869 | 4,471 |
| <u>TOTAL INEDIBLE OILS</u> | | | | | |
| <u>PRODUCTION</u> | <u>212,522</u> | <u>215,044</u> | <u>200,500</u> | <u>185,596</u> | <u>186,962</u> |
| <u>TOTAL EDIBLE AND INEDIBLE</u> | | | | | |
| <u>FATS AND OILS PRODUCTION</u> | | | | | |
| (Excluding Linseed Oil in 1974) | <u>633,943</u> | <u>649,051</u> | <u>610,736</u> | <u>591,706</u> | <u>599,766</u> |

TABLE 5 (Cont'd)

- 1/ Production data for corn oil and cocoa butter are confidential and have not been included.
- 2/ Soybean oil output of Canadian crushing mills.
- 3/ Rapeseed oil output of Canadian crushing mills. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content of carlot survey samples of rapeseed as follows:
- | | |
|---------|-----------------------------|
| 1970/71 | 44.6% (dry matter basis) |
| 1971/72 | 43.9% (dry matter basis) |
| 1972/73 | 40.2% (8.5% moisture basis) |
| 1973/74 | 39.9% (8.5% moisture basis) |
| 1974/75 | 40.9% (8.5% moisture basis) |
- 4/ Sunflowerseed oil output of Canadian crushing mills.
- 5/ Includes only crude vegetable oils produced in Canadian mills.
- 6/ Butter oil represents the oil equivalent of creamery butter, farm butter and whey butter production, using 81% as the conversion factor.
- 7/ Whale oil production includes small amounts of other unspecified marine oils.
- 8/ Other oil production includes seal oils.
- 9/ Small quantities of salmon oil (West Coast) and of redfish oil (East Coast) of edible grade cannot be identified statistically and are included under "Marine Oils" in the inedible category below.
- 10/ Linseed oil output of Canadian crushing plants. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content (dry matter basis) of carlot survey samples of flaxseed as follows:
- | | |
|---------|-------|
| 1970/71 | 42.4% |
| 1971/72 | 42.2% |
| 1972/73 | 42.4% |
| 1973/74 | 42.4% |
| 1974/75 | 43.1% |
- 11/ Confidential - to meet secrecy requirements of Statistics Act.
- 12/ Includes liver oils, groundfish oil, salmon oil and small amounts of unspecified oils.

SOURCE: Statistics Canada, Catalogue Nos. 22-006, 24-002, 32-002, 32-0020.

TABLE 6

CANADIAN IMPORTS OF FATS AND OILS

(Metric Tons)

| PRIMARILY EDIBLE | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Vegetable Oils | 1971 | 1972 | 1973 | 1974 | 1975 |
| Soybeans (Oil Equiv.) | 75,164 | 54,440 | 41,027 | 69,169 | 68,227 |
| Soybean Oil | 23,118 | 17,012 | 18,971 | 33,614 | 20,881 |
| Cottonseed Oil | 10,394 | 10,191 | 8,402 | 11,333 | 11,289 |
| Corn Oil | 8,019 | 8,179 | 6,604 | 10,358 | 10,172 |
| Peanut Oil | 5,334 | 7,399 | 7,382 | 5,519 | 6,848 |
| Coconut Oil | 20,645 | 32,295 | 21,299 | 21,956 | 25,816 |
| Palm Oil | 12,863 | 30,861 | 19,580 | 16,199 | 41,283 |
| Palm Kernel Oil | 4,903 | 5,749 | 5,944 | 4,376 | 5,093 |
| Olive Oil | 2,174 | 2,903 | 2,088 | 2,408 | 1,987 |
| Cocoa Butter | 6,616 | 6,300 | 6,595 | 5,378 | 4,362 |
| Sunflowerseed Oil | 2,349 | 1,926 | 77 | 186 | 170 |
| Veg. Oils & Fats | 1,231 | 1,764 | 4,504 | 5,973 | 2,965 |
| Veg. Cooking Fats & Packaged Salad Oils | 381 | 545 | 1,031 | 1,461 | 693 |
| Margarine & Shortening Oils | 2,781 | 5,133 | 1,448 | 11,983 | 15,546 |
| Total ^{1/} | <u>175,972</u> | <u>184,702</u> | <u>144,956</u> | <u>199,918</u> | <u>215,332</u> |
| Animal Fats | | | | | |
| Lard | 6,085 | 9,783 | 7,160 | 17,680 | 12,118 |
| Butter ^{2/} | <u>1,133</u> | <u>3,247</u> | <u>23,013</u> | <u>19,754</u> | <u>4,565</u> |
| Total | <u>7,218</u> | <u>13,031</u> | <u>30,173</u> | <u>37,435</u> | <u>16,683</u> |
| Marine Oils | | | | | |
| Fish & Marine Oil | <u>1,560</u> | <u>1,651</u> | <u>1,239</u> | <u>849</u> | <u>879</u> |
| Total | <u>1,560</u> | <u>1,651</u> | <u>1,239</u> | <u>849</u> | <u>879</u> |
| TOTAL EDIBLE OILS & FATS | <u>184,750</u> | <u>199,385</u> | <u>176,369</u> | <u>238,202</u> | <u>232,894</u> |
| PRIMARILY INEDIBLE | | | | | |
| Castor Oil | 2,621 | 2,170 | 2,788 | 1,850 | 1,909 |
| Tung Oil | 883 | 1,024 | 1,242 | 425 | 692 |
| Inedible Tallow ^{3/} | 9,535 | 8,406 | 2,779 | 3,509 | 1,668 |
| Animal Oil & Fats | 351 | 1,148 | 475 | 808 | 487 |
| Animal Grease ^{4/} | <u>1,432</u> | <u>1,148</u> | <u>2,517</u> | <u>2,612</u> | <u>4,154</u> |
| TOTAL INEDIBLE OILS & FATS | <u>14,822</u> | <u>13,897</u> | <u>9,802</u> | <u>9,205</u> | <u>8,910</u> |
| TOTAL EDIBLE & INEDIBLE FATS & OILS IMPORTS | <u>214,394</u> | <u>213,283</u> | <u>186,172</u> | <u>247,408</u> | <u>241,804</u> |

TABLE 6 (Cont'd)

- 1/ Vegetable oil total includes the oil equivalent of the imported soybeans. This is justified because the soybeans are crushed in Canada for oil and meal production.
- 2/ Butter imports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ This category includes Animal Grease, N.E.S. and Wool Grease and Lanolin.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 7

CANADIAN EXPORTS OF FATS AND OILS

(Metric Tons)

| PRIMARILY EDIBLE | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| <u>Vegetable Oils</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
| Soybeans (Oil Equiv.) | 6,024 | 7,334 | 4,771 | 5,034 | 1,541 |
| Soybean Oil | 44,229 | 31,305 | 3,360 | 8,148 | 2,074 |
| Rapeseed (Oil Equiv.) | 460,433 | 430,917 | 477,474 | 246,394 | 270,479 |
| Rapeseed Oil | - | - | 34,805 | 27,669 | 19,811 |
| Sunflowerseed (Oil Equiv.) | 4,610 | 9,707 | 12,459 | 8,467 | 3,186 |
| Margarine & Shortening | 371 | 236 | 147 | 352 | 268 |
| Vegetable Oil & Fats | 5,199 | 9,104 | 13,252 | 763 | 944 |
| Total ^{1/} | <u>520,868</u> | <u>488,604</u> | <u>546,269</u> | <u>296,828</u> | <u>298,303</u> |
| Animal Fats | | | | | |
| Butter (Oil Equiv.) ^{2/} | 1,646 | 8 | 2 | 3 | 23 |
| Total | <u>1,646</u> | <u>8</u> | <u>2</u> | <u>3</u> | <u>23</u> |
| Marine Oils | | | | | |
| Herring Oil | 5,254 | 3,422 | 2,833 | 5,524 | 2,277 |
| Whale Oil | 2,894 | 2,197 | 1,259 | - | - |
| Total | <u>8,148</u> | <u>5,620</u> | <u>4,093</u> | <u>5,524</u> | <u>2,277</u> |
| <u>TOTAL EDIBLE FATS & OILS (Including Oil Equiv. of Oilseeds)</u> | <u>530,663</u> | <u>494,293</u> | <u>550,362</u> | <u>302,356</u> | <u>300,603</u> |
| PRIMARILY INEDIBLE | | | | | |
| Flaxseed (Oil Equiv.) | 221,628 | 210,469 | 153,355 | 124,267 | 86,709 |
| Linseed Oil | 11,008 | 16,123 | 6,080 | 592 | 3,562 |
| Inedible Tallow ^{3/} | 99,295 | 104,130 | 81,926 | 98,740 | 97,871 |
| Marine Oils ^{4/} | 2,989 | 1,672 | 2,683 | 2,338 | 2,615 |
| Animal Fats and Oils | 4,343 | 3,293 | 5,116 | 2,718 | 1,463 |
| <u>TOTAL INEDIBLE FATS & OILS</u> | <u>339,274</u> | <u>335,688</u> | <u>249,162</u> | <u>228,656</u> | <u>192,210</u> |
| <u>TOTAL EDIBLE & INEDIBLE FATS AND OILS</u> | <u>869,947</u> | <u>829,921</u> | <u>799,525</u> | <u>531,012</u> | <u>492,823</u> |

TABLE 7 (Cont'd)

- 1/ The margarine portion cannot be separated, consequently it was not converted to fat equivalent. Oil equivalent of oilseeds are included in all totals. It is justified to include the oil equivalents of exported oilseeds into the total of fats and oil exports, since it represents a form of oil export and does not involve a duplication of data. Starting in 1973 rapeseed oil exports are reported separately and are no longer included under "Vegetable Oils and Fats".
- 2/ Butter exports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ Marine oil exports listed under "Inedible Oils" include sun-rotted cod liver oil, a non-specified group of fish and marine oil, and fish liver and visceral oils. While most of these oils can be assumed to be of an inedible grade, a small quantity of edible oil may have been included.

SOURCE: Statistics Canada, Catalogue No. 65-007.

CANADIAN OILSEEDS: ACREAGE, YIELD, PRODUCTION

| | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|---------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|---------------------------|-------------|-------------|
| | | | | (Thousands of Acres) | | | | (Yield Per Acre, Bushels) | | |
| Flaxseed | 1,768 | 1,321 | 1,450 | 1,450 | 1,400 | 12.7 | 13.3 | 13.4 | 9.5 | 12.5 |
| Rapeseed | 5,306 | 3,270 | 3,150 | 3,160 | 4,020 | 17.9 | 17.5 | 16.9 | 16.2 | 17.9 |
| Soybeans | 367 | 405 | 470 | 415 | 390 | 28.0 | 34.0 | 31.0 | 24.8 | 34.6 |
| Mustardseed | 206 | 180 | 335 | 350 | 163 | 900 | 842 | 782 | 743 | 678 |
| Sunflowerseed | 239 | 217 | 129 | 21 | 62 | 706 | 783 | 705 | 867 | 1,065 |

| | <u>Production</u> | | | | <u>Oil Equivalent</u> | | | | | |
|----------|------------------------|--------|--------|--------|-----------------------|---------|---------|---------|---------|---------|
| | (Thousands of Bushels) | | | | (Metric Tons) | | | | | |
| Flaxseed | 22,321 | 17,617 | 19,400 | 13,800 | 17,500 | 200,489 | 158,759 | 174,634 | 124,091 | 157,361 |
| Rapeseed | 95,000 | 57,300 | 53,200 | 51,300 | 72,100 | 861,834 | 520,275 | 482,627 | 465,390 | 654,097 |
| Soybeans | 10,276 | 13,770 | 14,570 | 10,290 | 13,478 | 49,442 | 66,225 | 70,307 | 49,569 | 64,926 |
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|-------------------------|---------------|-------|--------|
| Oil Conversion Factors: | Flaxseed | | 35.4% |
| | Rapeseed | | 40.0% |
| | Soybeans | | 17.7% |
| | Sunflowerseed | | 40.0% |
| | Mustardseed | | Oil Co |

TABLE 9

CANADIAN OILSEED PRODUCTION BY PROVINCE

| | <u>A R E A</u> ^{1/} | | | <u>YIELD PER ACRE</u> | | | <u>P R O D U C T I O N</u> | | |
|----------------------|------------------------------|-------------|-------------|-----------------------|-------------|-------------|----------------------------|-------------|-------------|
| | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
| <u>FLAXSEED</u> | | | | (Bushels) | | | (Thousands of Bushels) | | |
| Ontario | - | - | - | - | - | - | - | - | - |
| Manitoba | 600 | 700 | 750 | 12.7 | 9.4 | 11.2 | 7,600 | 6,600 | 8,400 |
| Saskatchewan | 650 | 550 | 450 | 13.7 | 8.5 | 13.1 | 8,900 | 4,700 | 5,900 |
| Alberta | 200 | 200 | 200 | 14.5 | 12.5 | 16.0 | 2,900 | 2,500 | 3,200 |
| <u>RAPESEED</u> | | | | (Bushels) | | | (Thousands of Bushels) | | |
| Manitoba | 400 | 500 | 650 | 19.2 | 17.0 | 16.9 | 7,700 | 8,500 | 11,000 |
| Saskatchewan | 1,450 | 1,450 | 1,800 | 16.6 | 16.0 | 18.3 | 24,000 | 23,200 | 33,000 |
| Alberta | 1,300 | 1,150 | 1,500 | 16.5 | 16.3 | 18.0 | 21,500 | 18,700 | 27,000 |
| British Columbia | - | 60 | 70 | - | 15.0 | 15.7 | - | 900 | 1,100 |
| <u>SOYBEANS</u> | | | | (Bushels) | | | (Thousands of Bushels) | | |
| Ontario | 470 | 415 | 390 | 31.0 | 24.8 | 34.6 | 14,500 | 10,290 | 13,400 |
| <u>SUNFLOWERSEED</u> | | | | (Pounds) | | | (Metric Tons) | | |
| Manitoba | 125 | 21 | 62 | 700 | 867 | 1,065 | 39,689 | 8,255 | 29,900 |
| Saskatchewan | 2.5 | - | - | 800 | - | - | 907 | - | - |
| Alberta | 1.5 | - | - | 933 | - | - | 635 | - | - |
| <u>MUSTARD SEED</u> | | | | (Pounds) | | | (Metric Tons) | | |
| Manitoba | 40 | 40 | 23 | 800 | 750 | 630 | 14,515 | 13,608 | 6,500 |
| Saskatchewan | 225 | 200 | 76 | 800 | 750 | 658 | 81,647 | 68,039 | 22,600 |
| Alberta | 70 | 110 | 64 | 714 | 727 | 719 | 22,679 | 36,287 | 20,800 |

^{1/} Thousands of acres.

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 10

CANADIAN CRUSHINGS OF VEGETABLE OILSEEDS AND
PRODUCTION OF OIL AND MEAL BY CROP YEAR

(Metric Tons)

| <u>CRUSHINGS</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|------------------------|----------------|------------------|------------------|------------------|-----------------|
| Flaxseed | 71,124 | 78,744 | 66,890 | 19,346 | x ^{1/} |
| Rapeseed | 195,046 | 272,158 | 353,178 | 334,414 | 275,973 |
| Soybeans | 636,850 | 634,128 | 612,552 | 642,310 | 635,110 |
| Sunflowerseed | 14,968 | 31,298 | 31,717 | 28,212 | 7,134 |
| Total | <u>917,988</u> | <u>1,016,328</u> | <u>1,064,337</u> | <u>1,024,282</u> | <u>-</u> |
| <u>OIL PRODUCTION</u> | | | | | |
| Flaxseed | 24,947 | 26,762 | 22,762 | 6,601 | x ^{1/} |
| Rapeseed | 77,111 | 106,141 | 133,966 | 125,631 | 108,483 |
| Soybeans | 109,770 | 109,316 | 99,125 | 109,169 | 108,344 |
| Sunflowerseed | 5,715 | 13,154 | 13,009 | 11,234 | 2,671 |
| Total | <u>217,545</u> | <u>255,375</u> | <u>268,862</u> | <u>252,635</u> | <u>-</u> |
| <u>MEAL PRODUCTION</u> | | | | | |
| Flaxseed | 45,359 | 49,895 | 42,037 | 11,932 | x ^{1/} |
| Rapeseed | 112,945 | 162,841 | 204,169 | 193,932 | 157,763 |
| Soybeans | 498,049 | 493,967 | 482,973 | 503,368 | 499,183 |
| Sunflowerseed | 5,443 | 11,793 | 11,811 | 10,558 | 2,553 |
| Total | <u>661,798</u> | <u>718,497</u> | <u>740,990</u> | <u>719,790</u> | <u>-</u> |

1/ Confidential - to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006

TABLE 11

MONTH-END STOCKS OF OIL AND MEAL IN CRUSHING PLANTS^{1/}
(Metric Tons)

| | O I L | | | M E A L | | |
|---------------|-------------|-----------------|-----------------|-------------|-----------------|-----------------|
| | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
| Flaxseed | 1,847 | x ^{2/} | x ^{2/} | 1,145 | x ^{2/} | x ^{2/} |
| Soybeans | 2,894 | 3,750 | 1,399 | 18,049 | 14,614 | 6,129 |
| Rapeseed | 6,199 | 10,480 | 7,640 | 11,128 | 5,983 | 3,966 |
| Sunflowerseed | 43 | 68 | 11 | 69 | 98 | 98 |

^{1/} October 1973-75.

^{2/} Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006

CHAPTER 4

THE CANADIAN RAPESEED SITUATION

Production

After reaching a peak production of 95 million bushels in 1971/72, rapeseed production has steadily declined as a result of the increased competition for acreage from cereal grains and reduced domestic and world demand for rapeseed and its products in response to increased competition from lower-priced vegetable oils and meals (Table 12).

If world production of edible vegetable oils and proteins continue to increase and world markets for cereal grains continue to remain strong, rapeseed will face increasing competition for acreage. Future increases in production will therefore be more likely to be derived from increased yields rather than from increased acreage.

Canadian Exports of Rapeseed

Rapeseed exports increased in 1975 over 1974, but it must be remembered that strikes in the grain industry substantially reduced exports in 1974 (Table 14). Exports in 1975 were only 60% of the average exports for the three-year period 1971 to 1973. While Japan has continued to be our largest export market, exports to this market were reduced in 1974 and 1975 by the importation of lower-priced rapeseed from other sources.

Canadian Exports of Rapeseed Oil

Prior to 1973 exports of rapeseed oil were not reported separately by Statistics Canada; therefore, it is difficult to establish a trend (Table 15). Exports have declined from 1973 to 1975 due to a number of factors including worldwide recession which reduced the demand for edible oils. High prices, world production exceeding demand and the entry of low-priced palm, palm kernel and coconut oils on the world market in large volumes are also considered to have been factors in the reduction of Canadian rapeseed oil exports.

Canadian Exports of Rapeseed Oilcake and Meal

Exports of rapeseed meal were not reported separately prior to 1973 but since then the trend has been downward (Table 16). The U.S. export embargo on protein meals which was imposed in 1973 caused importers to seek protein supplies from alternative sources, so that a comparison of 1974 and 1975 exports with 1973 is not necessarily valid.

Canadian Rapeseed Prices

Rapeseed prices remained relatively stable from 1970/71 through June 1973 at which time they began to rise dramatically to a peak of \$9.55 per bushel in October 1974 (Table 18). Since that time prices have fluctuated.

TABLE 12
CANADIAN SUPPLY AND DISPOSITION OF RAPESEED
RAPESEED OIL AND RAPESEED MEAL
 (Crop Year)

| <u>RAPESEED</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|----------------------|------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Bushels) | | | | |
| Stocks, Starting | 3,683 | 11,029 | 43,139 | 20,678 | 12,386 |
| Production | 72,200 | 95,000 | 57,300 | 53,200 | 51,300 |
| Exports | 46,811 | 42,603 | 54,059 | 39,183 | 26,146 |
| Domestic Crashings | 8,575 | 12,050 | 15,572 | 14,745 | 12,168 |
| <u>RAPESEED OIL</u> | (Metric Tons) | | | | |
| Exports | - | - | 24,983 | 34,488 | 19,240 |
| Domestic Production | 77,111 | 106,141 | 133,966 | 125,631 | 108,483 |
| <u>RAPESEED MEAL</u> | (Metric Tons) | | | | |
| Exports | - | - | 19,452 | 47,580 | 10,672 |
| Domestic Production | 112,945 | 162,841 | 204,169 | 193,932 | 157,763 |

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 13

SUMMERFALLOW AND STUBBLE CULTIVATION
RAPESEED AND FLAXSEED

| | R A P E S E E D | | | F L A X S E E D | | |
|--------------------------------------|----------------------|----------------|--------------|----------------------|----------------|--------------|
| | <u>Summer-fallow</u> | <u>Stubble</u> | <u>Total</u> | <u>Summer-fallow</u> | <u>Stubble</u> | <u>Total</u> |
| <u>Seeded Area</u> | ('000 Acres) | | | | | |
| 1971 | 4,759 | 716 | 5,475 | 1,442 | 558 | 2,000 |
| 1972 | 2,525 | 745 | 3,270 | 746 | 574 | 1,320 |
| 1973 | 2,410 | 740 | 3,150 | 776 | 674 | 1,450 |
| 1974 | 2,346 | 754 | 3,100 | 731 | 719 | 1,450 |
| 1975 | 3,009 | 941 | 3,950 | 664 | 736 | 1,400 |
| <hr/> | | | | | | |
| <u>Distribution</u> | (Per Cent) | | | | | |
| 1971 | 87 | 13 | 100 | 72 | 28 | 100 |
| 1972 | 77 | 23 | 100 | 57 | 43 | 100 |
| 1973 | 77 | 23 | 100 | 54 | 46 | 100 |
| 1974 | 76 | 24 | 100 | 50 | 50 | 100 |
| 1975 | 76 | 24 | 100 | 47 | 53 | 100 |
| <hr/> | | | | | | |
| <u>Average Yield Per Seeded Acre</u> | (Bushels) | | | | | |
| 1971 | 18.7 | 13.1 | 18.0 | 13.9 | 9.9 | 12.8 |
| 1972 | 18.3 | 14.8 | 17.5 | 15.2 | 11.0 | 13.3 |
| 1973 | 17.9 | 13.5 | 16.9 | 14.6 | 12.0 | 13.4 |
| 1974 | 17.2 | 13.4 | 16.3 | 10.5 | 8.5 | 9.5 |
| 1975 | 19.0 | 14.7 | 18.0 | 14.5 | 10.7 | 12.5 |
| <hr/> | | | | | | |
| <u>Production</u> | (Million Bushels) | | | | | |
| 1971 | 89.12 | 9.38 | 98.50 | 20.0 | 5.5 | 25.5 |
| 1972 | 46.27 | 11.03 | 57.30 | 11.3 | 6.3 | 17.6 |
| 1973 | 43.22 | 9.98 | 53.20 | 11.3 | 8.1 | 19.4 |
| 1974 | 40.30 | 10.10 | 50.40 | 7.7 | 6.1 | 13.8 |
| 1975 | 57.20 | 13.80 | 71.00 | 9.6 | 7.9 | 17.5 |

TABLE 14

CANADIAN EXPORTS OF RAPESEED

(Metric Tons)

| DESTINATION | 1971 | 1972 | 1973 | 1974 | 1975 |
|--------------------|-----------|----------------|----------------------|----------------------|----------------------|
| Algeria | - | 1,950 | - | - | - |
| Australia | 44 | 10,995 | 20,613 | 14,739 | - |
| Bangladesh | - | - | 81,048 ^{2/} | 18,012 ^{3/} | 47,688 ^{4/} |
| Belgium-Luxembourg | 3,705 | 1,516 | 2,092 | 358 | 508 |
| Brazil | - | - | - | 12 | - |
| Czechoslovakia | 12,999 | - | - | - | - |
| Denmark | - | - | 4,536 | - | - |
| Finland | 1,813 | - | - | - | - |
| France | 164,569 | 143,369 | 17,118 | - | - |
| Germany, West | 92,151 | 28,075 | 87,970 | 23,418 | 5,651 |
| Hungary | - | 1 [/] | - | - | - |
| India | 80,283 | 51,242 | 51,302 ^{5/} | 4,521 ^{6/} | 14,142 ^{7/} |
| Italy | 91,584 | 67,997 | 86,121 | 896 | 2,008 |
| Japan | 426,304 | 588,648 | 710,987 | 493,947 | 579,385 |
| Korea, South | 2,072 | - | 24,474 | - | - |
| Lebanon | 1,049 | 3,789 | - | - | - |
| Mexico | - | 4 | 23,502 | 38,731 | - |
| Morocco | 11,549 | 15,201 | - | - | - |
| Netherlands | 203,679 | 86,058 | 61,895 | 20,680 | 18,426 |
| Norway | 10,826 | 3,242 | - | - | - |
| Pakistan | 21,223 | 52,051 | - | - | - |
| Peru | 1 | - | - | 2 | - |
| Romania | - | - | - | 1 | - |
| Spain | 45 | 61 | 1,004 | - | 919 |
| Sweden | 3 | 20 | 13 | 1 [/] | 56 |
| Switzerland | - | - | - | - | 3,953 |
| Taiwan | - | - | 18,024 | - | - |
| United Kingdom | 8,178 | 18,562 | 3,048 | 999 | 3,324 |
| United States | 8,258 | 191 | 2 | 104 | 123 |
| Venezuela | - | - | - | - | 9 |
| Total | 1,151,065 | 1,077,791 | 1,193,666 | 615,975 | 676,199 |

^{1/} Less than one metric ton.^{2/} CIDA reports 27,140 metric tons shipped under bilateral food aid in the crop year 1972/73.^{3/} CIDA reports 30,162 metric tons shipped under bilateral food aid in the crop year 1973/74.^{4/} CIDA reports 9,432 metric tons shipped under bilateral food aid in the crop year 1974/75.^{5/} CIDA reports 51,302 metric tons shipped under bilateral food aid in the crop year 1972/73.^{6/} CIDA reports 4,521 metric tons shipped under bilateral food aid in the crop year 1973/74.^{7/} CIDA reports 14,150 metric tons shipped under bilateral food aid in the crop year 1974/75.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 15

CANADIAN EXPORTS OF RAPESEED OIL
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> ^{1/} | <u>1972</u> ^{1/} | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|---------------------------|---------------------------|-------------------|----------------------|-------------------|
| Australia | | | 395 ^{2/} | 538 | 122 |
| Bangladesh | | | 295 | - | - |
| Chile | | | 11,159 | - | - |
| France | | | 1 | - | - |
| Hong Kong | | | 2,304 | - | 590 ^{4/} |
| India | | | 5,050 | 13,237 ^{3/} | 9,438 |
| Japan | | | 13,695 | 3,381 | 3,019 |
| Netherlands | | | 13 | - | 3,202 |
| United Kingdom | | | 1,176 | 1,240 | 2,476 |
| United States | | | 711 | 8,268 | 963 |
| Zambia | | | - | 1,002 | - |
| Total | | | 34,805 | 27,669 | 19,811 |
| Total Value (\$'000) | | | 10,223 | 14,133 | 15,683 |

1/ Not published prior to 1973.

2/ CIDA reports 4,493 metric tons shipped under bilateral food aid in the crop year 1972/73.

3/ CIDA reports 13,694 metric tons shipped under bilateral food aid in the crop year 1973/74.

4/ CIDA reports 7,364 metric tons shipped under bilateral food aid in the crop year 1974/75.

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 16CANADIAN EXPORTS OF RAPESEED OILCAKE AND MEAL

(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> ^{<u>1/</u>} | <u>1972</u> ^{<u>1/</u>} | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|----------------------------------|----------------------------------|---------------|---------------|---------------|
| Barbados | | | 9 | 269 | - |
| Chile | | | 5,499 | - | - |
| Cuba | | | 20 | - | - |
| Germany, West | | | 1,451 | 16 | 1,965 |
| Jamaica | | | - | 3 | - |
| Japan | | | 1 | - | - |
| Korea, South | | | 7,597 | - | - |
| Mexico | | | 3,039 | 5,811 | - |
| Netherlands | | | 6,702 | 10,738 | 5,756 |
| Philippines | | | 3,710 | 609 | - |
| United Kingdom | | | 11,616 | 7,620 | 12,392 |
| United States | | | 1,608 | 5,840 | 552 |
| Total | | | <u>41,257</u> | <u>30,911</u> | <u>20,666</u> |
| Total Value (\$'000) | | | <u>6,198</u> | <u>3,218</u> | <u>2,115</u> |

^{1/} Not published prior to 1973.SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 17

QUALITY DATA FOR WESTERN CANADIAN RAPESEED,
SURVEY SAMPLES OF 1974 AND 1975 CROPS

| | <u>1974 SURVEY</u> | | | | <u>1975 SURVEY</u> | | | |
|-----------------------------------|---------------------------|------------------------------------|---|---------------------------|---------------------------|------------------------------------|---|---------------------------|
| | <u>Oil 1/ Content</u> | <u>Erucic Acid Content</u> | <u>Protein^{2/} Content</u> | <u>No. of Samples</u> | <u>Oil 1/ Content</u> | <u>Erucic Acid Content</u> | <u>Protein^{2/} Content</u> | <u>No. of Samples</u> |
| <u>WESTERN CANADA</u> | | | | | | | | |
| No. 1 CRS | 40.5 | 4.5 | 35.7 | 387 | 41.3 | 3.2 | 36.6 | 445 |
| No. 2 CRS | 43.0 | 2.8 | 36.6 | 74 | 40.6 | 1.6 | 40.4 | 46 |
| No. 3 CRS | 42.7 | 6.8 | 34.7 | 14 | 41.4 | 0.4 | 42.8 | 2 |
| All Grades | 40.8 | 4.3 | 35.6 | 486 | 41.3 | 3.1 | 36.9 | 493 |
| <u>ALL GRADES BY PROVINCE</u> | | | | | | | | |
| Manitoba | 40.8 | 3.2 | 36.8 | 78 | 39.7 | 1.6 | 39.9 | 80 |
| Saskatchewan | 40.8 | 3.2 | 36.4 | 327 | 41.6 | 2.5 | 36.9 | 229 |
| Alberta | 40.9 | 5.6 | 34.1 | 171 | 41.5 | 4.4 | 35.7 | 184 |

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1/ Oil content of seed is reported on an 8.5% moisture basis.

2/ Protein content is reported on the oil-free meal and an 8.5% moisture basis.

SOURCE: Canadian Grain Commission, Crop Bulletins No. 125 and 129.

TABLE 18CANADIAN RAPESEED PRICES

(Crop Year)

| <u>MONTH</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|----------------|--------------------------------|----------------|----------------|----------------|----------------|
| | (Cents and Eighths per Bushel) | | | | |
| August | 267/3 | 273/7 | 244/7 | 649/7 | 821/2 |
| September | 240/6 | 248/2 | 253/3 | 536/4 | 851/4 |
| October | 255/7 | 255/4 | 256/1 | 493/7 | 955/5 |
| November | 259 | 250/2 | 260/5 | 482/5 | 902 |
| December | 269/2 | 238/3 | 295/5 | 566/6 | 812/3 |
| January | 281/3 | 228 | 325/6 | 655/1 | 731/7 |
| February | 302 | 231/4 | 374/4 | 706/1 | 639/3 |
| March | 291/4 | 247/2 | 361 | 677/7 | 620/2 |
| April | 302/3 | 269/5 | 376/2 | 608/7 | 643/3 |
| May | 274 | 248 | 399/1 | 702/1 | 568/5 |
| June | 290/4 | 234/7 | 537/7 | 738/6 | 545/3 |
| July | 296/7 | 239/3 | 682/4 | 796 | 587/4 |
| Yearly Average | <u>278/1</u> | <u>247/1</u> | <u>364</u> | <u>634/4</u> | <u>723/2</u> |

SOURCE: Statistics Canada, Catalogue No. 22-006

CHAPTER 5

THE CANADIAN SOYBEAN SITUATION

Production

Soybean production in Canada is confined mainly to southwestern Ontario where competition for acreage with other cash crops is intense. Production dropped in 1974/75 by 3.5 million bushels compared to 1973/74 due to an expansion of corn production in the soybean producing areas (Table 19). Until new varieties are developed which, by requiring fewer heat units for maturity, will increase the area of potential soybean production in Canada, it appears unlikely that soybean production will significantly exceed 14 million bushels.

Domestic crushings have remained relatively stable over the last five years.

Canadian Imports of Soybean and Soybean Oil

Canadian imports of soybeans, almost all from the United States, have typically been equivalent to about two-thirds of domestic production (Table 20).

Imports of soybean oil were 12.7 metric tons lower in 1975 than in 1974 probably due to the increase in the importation of palm oil.

Imports of Soybean Meal

Soybean meal continues to be the dominant oilseed protein meal for livestock and poultry feeding in Canada. Domestic production has remained relatively stable at around 500,000 metric tons per year and additional quantities are imported from the U.S. to supplement Canadian production (Table 21). The amount imported varies according to Canadian production and the level of livestock and poultry feeding in Canada.

Canadian Exports of Soybeans

The United Kingdom has been Canada's major soybean market over the years. However, British entry into the E.E.C. has resulted in loss of the Commonwealth preferential tariff so that Canadian exports have dropped significantly in the last two years (Table 23).

Exports are now mainly comprised of specialty (food grade) items for direct human consumption.

Canadian Exports of Soybean Oil and Meal

The U.K. has been Canada's principal market for soybean oil and meal (Table 24). Exports are expected to continue their downward trend due to the loss of the preferential tariff in this market.

Canadian Soybean Prices

Canadian prices of soybeans are closely tied to the Chicago commodity market (Table 25).

TABLE 19

CANADIAN SUPPLY AND DISPOSITION OF SOYBEANS,
SOYBEAN OIL AND SOYBEAN MEAL

(Crop Year)

| <u>SOYBEANS</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|------------------------|------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Bushels) | | | | |
| Production | 10,385 | 10,276 | 13,770 | 14,570 | 11,040 |
| Imports | 15,703 | 14,774 | 10,973 | 12,506 | 12,650 |
| Exports | 768 | 1,366 | 1,062 | 1,061 | 349 |
| Domestic Crushings | 23,437 | 23,314 | 22,507 | 23,601 | 23,336 |
| <u>SOYBEAN OIL</u> | (Metric Tons) | | | | |
| Imports | 24,041 | 19,519 | 16,459 | 33,395 | 19,557 |
| Exports | 30,880 | 46,128 | 12,547 | 4,942 | 5,587 |
| Domestic Production | 109,770 | 109,316 | 99,125 | 109,169 | 108,344 |
| <u>SOYBEAN MEAL</u> | (Metric Tons) | | | | |
| Imports | 226,685 | 207,649 | 219,872 | 232,974 | 135,574 |
| Exports | 119,779 | 123,208 | 118,066 | 94,087 | 83,527 |
| Domestic Production | 498,049 | 493,967 | 482,973 | 503,368 | 499,183 |

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 20CANADIAN IMPORTS OF SOYBEAN AND SOYBEAN OIL

SOYBEANS
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Germany, West | - | - | - | 2 | 1 |
| Hong Kong | 26 | 4 | 12 | <u>1/</u> | 3 |
| Japan | - | - | 2 | 2 | 4 |
| Peoples Republic of China | 30 | 5 | 20 | 20 | 13 |
| United Kingdom | - | - | <u>1/</u> | - | - |
| United States | <u>424,593</u> | <u>308,470</u> | <u>231,749</u> | <u>390,756</u> | <u>385,444</u> |
| Total | <u>424,650</u> | <u>340,043</u> | <u>231,784</u> | <u>390,781</u> | <u>385,465</u> |
| Total Value (\$'000) | <u>49,639</u> | <u>39,108</u> | <u>50,360</u> | <u>90,505</u> | <u>86,210</u> |

SOYBEAN OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| France | - | <u>1/</u> | - | <u>1/</u> | 1 |
| United States | <u>23,118</u> | <u>17,012</u> | <u>18,971</u> | <u>33,614</u> | <u>20,881</u> |
| Total | <u>23,118</u> | <u>17,012</u> | <u>18,971</u> | <u>33,614</u> | <u>20,882</u> |
| Total Value (\$'000) | <u>7,217</u> | <u>4,708</u> | <u>8,264</u> | <u>24,829</u> | <u>14,394</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

1/ Less than one metric ton.

TABLE 21

IMPORTS OF SOYBEAN OIL BY PROVINCE

| | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | |
|------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | - | - |
| Nova Scotia | - | - | - | - | 39 | 17 | - | - | 1 | 1/ |
| P.E.I. | 137 | 47 | - | - | - | - | - | - | - | - |
| New Brunswick | 4,712 | 1,411 | 2,314 | 674 | 948 | 393 | 1,366 | 1,033 | 1,614 | 1,267 |
| Quebec | 763 | 226 | 149 | 50 | 873 | 446 | 5,897 | 3,871 | 1,490 | 822 |
| Ontario | 15,451 | 4,850 | 12,062 | 3,254 | 11,775 | 5,114 | 16,913 | 13,143 | 11,681 | 8,196 |
| Manitoba | 55 | 16 | 69 | 14 | 2,338 | 993 | 4,458 | 3,184 | 2,752 | 1,572 |
| Saskatchewan | - | - | - | - | - | - | 95 | 73 | 250 | 155 |
| Alberta | - | - | - | - | 162 | 72 | 970 | 599 | 343 | 236 |
| British Columbia | 1,996 | 663 | 2,415 | 714 | 2,830 | 1,225 | 3,912 | 2,922 | 2,747 | 2,142 |
| Total | 23,116 | 7,213 | 17,011 | 4,706 | 18,969 | 8,260 | 33,613 | 24,825 | 20,881 | 14,394 |

1/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data.

TABLE 22

IMPORTS OF SOYBEAN MEAL BY PROVINCE

| | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | |
|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | 129 | 18 |
| Nova Scotia | 3,092 | 315 | 1,536 | 185 | 3,084 | 477 | 133 | 29 | 3,288 | 521 |
| P.E.I. | - | - | - | - | - | - | - | - | - | - |
| New Brunswick | - | - | - | - | 36 | 4 | 72 | 13 | 129 | 18 |
| Quebec | 44,864 | 5,486 | 50,512 | 6,232 | 36,719 | 5,312 | 65,673 | 10,399 | 91,146 | 20,062 |
| Ontario | 57,095 | 5,797 | 54,839 | 7,247 | 47,879 | 14,048 | 57,704 | 10,897 | 49,312 | 8,574 |
| Manitoba | 40,071 | 3,804 | 47,689 | 5,188 | 46,432 | 11,245 | 77,965 | 14,627 | 63,070 | 9,975 |
| Saskatchewan | 6,550 | 597 | 6,029 | 662 | 16,335 | 4,383 | 19,672 | 3,975 | 17,808 | 3,134 |
| Alberta | 23,320 | 2,237 | 28,414 | 3,067 | 21,794 | 5,644 | 27,025 | 5,108 | 37,904 | 6,273 |
| B.C. | 32,785 | 3,099 | 33,122 | 3,743 | 19,060 | 5,016 | 29,192 | 5,865 | 31,554 | 5,622 |
| Total | 207,780 | 21,335 | 222,143 | 26,254 | 191,341 | 46,129 | 277,438 | 50,853 | 294,343 | 54,209 |

SOURCE: Statistics Canada, Unpublished Data

TABLE 23

CANADIAN EXPORTS OF SOYBEANS

(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Belgium-Luxembourg | - | - | - | 2,000 | - |
| Bulgaria | - | - | 137 | - | - |
| France | - | - | - | 63 | 490 |
| Germany, West | 13 | - | 1 | 561 | 225 |
| Hong Kong | - | - | 18 | 957 | 2,192 |
| Jamaica | 2 | 2 | 2 | 3 | 4 |
| Japan | - | - | 5,103 | 3,830 | 3,041 |
| Netherlands | 97 | 162 | 145 | 18 | - |
| Singapore | - | - | - | - | 1,020 |
| Spain | - | - | - | - | 213 |
| Surinam | 1 | - | - | - | - |
| Sweden | 850 | 676 | 839 | 1,356 | - |
| Switzerland | 30 | 72 | 72 | 91 | - |
| Trinidad - Tobago | 1 | - | - | - | - |
| United Kingdom | 33,019 | 40,532 | 20,358 | 4,162 | 30 |
| United States | 16 | 24 | 274 | 22 | 46 |
| U.S.S.R. | - | 5 | - | - | - |
| Yugoslavia | - | - | - | - | 160 |
| Total | 34,033 | 41,478 | 26,955 | 13,066 | 8,710 |
| Total Value (\$'000) | 4,063 | 5,665 | 6,151 | 3,451 | 2,812 |

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 24CANADIAN EXPORTS OF SOYBEAN OIL AND MEAL

(Metric Tons)

SOYBEAN OIL

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|---------------|---------------|--------------|--------------|--------------|
| Bahamas | 2 | 8 | 4 | - | - |
| Germany, West | - | - | - | - | 14 |
| Jamaica | - | - | - | - | 4 |
| Leeward-Windward Islands | - | - | - | 1 | 1 |
| United Kingdom | 44,219 | 31,296 | 3,310 | 7,778 | 1,965 |
| United States | 6 | <u>1/</u> | 45 | 368 | 92 |
| Total | <u>44,228</u> | <u>31,304</u> | <u>3,359</u> | <u>8,148</u> | <u>2,076</u> |
| Total Value (\$'000) | <u>14,491</u> | <u>8,480</u> | <u>1,233</u> | <u>5,663</u> | <u>1,391</u> |

1/ Less than one metric ton.SOYBEAN MEAL

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|----------------|---------------|----------------|----------------|---------------|
| Belgium-Luxembourg | - | - | 6,679 | - | - |
| Guyana | - | 6 | - | - | - |
| Ireland | - | - | - | 3,789 | - |
| Trinidad-Tobago | - | - | - | - | 1 |
| United Kingdom | 120,194 | 86,675 | 94,906 | 101,984 | 57,269 |
| United States | 4 | 1,872 | 9,923 | 9,420 | 1,723 |
| Total | <u>120,198</u> | <u>88,554</u> | <u>111,509</u> | <u>115,195</u> | <u>58,993</u> |
| Total Value (\$'000) | <u>11,351</u> | <u>9,405</u> | <u>18,851</u> | <u>17,547</u> | <u>9,435</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 25

CANADIAN SOYBEAN PRICES^{1/}
(Crop Year)

| <u>M O N T H</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|------------------|--|----------------|----------------|----------------|----------------|
| | (Cents and Eighths per Bushel) | | | | |
| August | 276/3 | 326/1 | 340/7 | 1040 | 716/2 |
| September | 277/6 | 304/7 | 325/6 | 605 | 726/6 |
| October | 291/4 | 308/3 | 310/5 | 557 | 811/4 |
| November | 293/1 | 299/2 | 342/2 | 553/6 | 723/6 |
| December | 286 | 299/6 | 391/7 | 583/7 | 678/2 |
| January | 294/2 | 297/2 | 428 | 606/2 | 590/6 |
| February | 296/3 | 306/6 | 567/6 | 644/1 | 506/2 |
| March | 296/4 | 325/7 | 617/5 | 610/2 | 504/2 |
| April | 286 | 338/2 | 646/4 | 534/2 | 527/3 |
| May | 295/2 | 335/5 | 882/4 | 517/1 | 481/8 |
| June | 311/5 | 330/1 | 1095/7 | 504/6 | 488/2 |
| July | 331/4 | 334/3 | 929 | 642/1 | 542/7 |
| Yearly Average | <u>294/6</u> | <u>316/7</u> | <u>573/2</u> | <u>616/4</u> | <u>608/2</u> |

^{1/} Buying prices, carlots, f.o.b. Chatham, No. 2 and better.

SOURCE: Statistics Canada, Catalogue No. 22-006

CHAPTER 6

THE CANADIAN SUNFLOWERSEED SITUATION

Production

Canadian sunflower production is concentrated primarily in Manitoba. Between 1971 and 1975 the average production in Canada was 45,124 metric tons, of which Manitoba production was 38,891 metric tons (Table 26). There is, however, substantial scope for increased production of sunflowers from the standpoint of both the area seeded and increased yields. From an agronomic point of view, western Canada, with the present varieties could accommodate 400,000 to 800,000 acres and still maintain an adequate rotation. Increased yields would have a major impact not only on the total production levels but also on the number of acres seeded in subsequent years. Average yields have varied from a low of 708 pounds per acre to 1,065 pounds per acre over the five-year period. The variability and uncertainty of yields has resulted in producers being apprehensive about the sunflower crop and therefore limiting the seeded area.

Canadian Exports and Imports of Sunflowerseed and Oil

Exports of sunflowerseed have declined from a high of 24.2 metric tons in 1972 to 7.9 metric tons in 1975 (Table 27).

Imports of sunflowerseed oil have also declined from a high of 2,270 metric tons in 1971 to 170 metric tons in 1970 (Table 28).

TABLE 26

CANADIAN SUNFLOWERSEED: ACREAGE, YIELD AND PRODUCTION
(Crop Year)

| | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|---------------|----------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 140.0 | 190.0 | 125.0 | 30.0 | 62.0 |
| Saskatchewan | 65.0 | 23.0 | 2.5 | - | - |
| Alberta | 10.0 | 4.0 | 1.5 | - | - |
| Canada, Total | 215.0 | 217.0 | 129.0 | 30.0 | 62.0 |
| | (Yield Per Acre, Pounds) | | | | |
| Manitoba | 750 | 800 | 700 | 867 | 1,065 |
| Saskatchewan | 650 | 652 | 800 | - | - |
| Alberta | 500 | 750 | 933 | - | - |
| Canada, Total | 708 | 783 | 705 | 867 | 1,065 |
| | (Production - Metric Tons) | | | | |
| Manitoba | 47,627 | 68,946 | 39,689 | 8,255 | 29,937 |
| Saskatchewan | 19,187 | 6,804 | 907 | - | - |
| Alberta | 2,268 | 1,360 | 635 | - | - |
| Canada, Total | 69,082 | 77,111 | 41,232 | 8,255 | 29,937 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 27

CANADIAN EXPORTS OF SUNFLOWERSEED

(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|---------------|---------------|---------------|---------------|--------------|
| Australia | - | - | <u>1/</u> | - | - |
| Bangladesh | - | - | <u>1/</u> | 2 | - |
| Bermuda | <u>1/</u> | - | - | - | - |
| Czechoslovakia | - | - | - | 6,877 | - |
| France | - | 2,499 | 20,357 | - | - |
| Germany, West | 49 | 4,339 | 69 | 7,244 | 3,825 |
| Italy | - | - | 8,255 | - | - |
| Japan | 3,024 | 5,558 | - | - | - |
| Korea, South | - | - | 23 | - | - |
| Netherlands | 4,719 | 10,221 | 887 | 5,703 | - |
| New Zealand | <u>1/</u> | 2 | 2 | <u>1/</u> | 2 |
| Portugal | - | - | - | 36 | 2,701 |
| Spain | - | - | 161 | - | 526 |
| Sweden | - | 46 | 37 | <u>1/</u> | 2 |
| United Kingdom | 25 | 45 | 22 | 31 | 34 |
| United States | 3,706 | 1,526 | 1,326 | 1,250 | 874 |
| U.S.S.R. | - | - | - | <u>1/</u> | - |
| Total | <u>11,524</u> | <u>24,238</u> | <u>31,143</u> | <u>21,169</u> | <u>7,965</u> |
| Total Value (\$'000) | <u>1,517</u> | <u>3,660</u> | <u>6,143</u> | <u>7,334</u> | <u>2,623</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 28CANADIAN IMPORTS OF SUNFLOWERSEED OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|-------------|-------------|-------------|
| Austria | 4 | 7 | 1 | 3 | 5 |
| Bulgaria | 69 | - | - | - | - |
| France | - | - | <u>1/</u> | 2 | 1 |
| Germany, West | 3 | <u>1/</u> | - | - | - |
| Netherlands | - | 219 | - | - | - |
| United States | 2,270 | 1,698 | 74 | 178 | 160 |
| U.S.S.R. | - | - | - | 1 | 4 |
| Total | <u>2,348</u> | <u>1,925</u> | <u>77</u> | <u>186</u> | <u>170</u> |
| Total Value (\$'000) | <u>736</u> | <u>617</u> | <u>27</u> | <u>181</u> | <u>158</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 29

IMPORTS OF SUNFLOWERSEED OIL BY PROVINCE

| | 1 9 7 1 | | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | |
|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Newfoundland | - | - | - | - | - | - | - | - | - | - |
| Nova Scotia | - | - | - | - | - | - | - | - | - | - |
| P.E.I. | - | - | - | - | - | - | - | - | - | - |
| New Brunswick | - | - | - | - | - | - | - | - | - | - |
| Quebec | 74 | 33 | 5 | 3 | 2 | 1 | 7 | 4 | 8 | 9 |
| Ontario | 2,243 | 689 | 1,920 | 616 | 74 | 25 | 178 | 175 | 50 | 43 |
| Manitoba | - | - | - | - | - | - | - | - | - | - |
| Saskatchewan | - | - | - | - | - | - | - | - | - | - |
| Alberta | 26 | 9 | - | - | - | - | - | - | 111 | 105 |
| British Columbia | 3 | 3 | - | - | - | - | 1/ | 1/ | 1/ | 2/ |
| Total | 2,347 | 734 | 1,925 | 619 | 77 | 26 | 185 | 179 | 170 | 157 |

1/ Less than one metric ton.

2/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data

CHAPTER 7

THE CANADIAN MUSTARDSEED SITUATION

Production

Mustardseed production in 1975/76 decreased by 67,814 metric tons compared to 1974/75 due to a combination of lower yields per acre and less seeded acreage (Table 30). Production is not expected to increase in the 1976/77 crop year because returns per acre to the producers are expected to be lower than for cereal grains.

Canadian Exports of Mustardseed

Mustardseed is grown under contract to companies who receive, clean and export the seed. Although Canada continues to be the world's largest exporter of mustardseed, exports have been in a steady decline since 1972 (Table 31). The United States continues to be the major market.

Canadian Imports of Ground Mustard

Although Canada continues to be the world's largest exporter of mustardseed, very little is processed in Canada. Therefore, imports of processed mustard are necessary to meet domestic requirements. Imports have been increasing steadily since 1972 and have been mainly from the United Kingdom (Table 32).

TABLE 30CANADIAN MUSTARDSEED: ACREAGE, YIELD AND PRODUCTION

(Crop Year)

| | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|---------------|--------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 20 | 15 | 40 | 40 | 23 |
| Saskatchewan | 175 | 140 | 225 | 200 | 76 |
| Alberta | 70 | 25 | 70 | 110 | 64 |
| Canada, Total | 265 | 180 | 335 | 350 | 163 |
| | (Yield, Pounds Per Acre) | | | | |
| Manitoba | 800 | 833 | 800 | 750 | 630 |
| Saskatchewan | 950 | 821 | 800 | 750 | 658 |
| Alberta | 750 | 960 | 714 | 727 | 719 |
| Canada, Total | 886 | 842 | 782 | 743 | 678 |
| | (Metric Tons) | | | | |
| Manitoba | 7,257 | 5,670 | 14,515 | 13,608 | 6,577 |
| Saskatchewan | 75,433 | 52,163 | 81,647 | 68,039 | 22,679 |
| Alberta | 23,813 | 10,886 | 22,679 | 36,287 | 20,865 |
| Canada, Total | 106,504 | 68,720 | 118,842 | 117,935 | 50,121 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 31

CANADIAN EXPORTS OF MUSTARDSEED
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| Argentina | 55 | 99 | - | - | - |
| Australia | - | - | - | 65 | - |
| Belgium-Luxembourg | 3,691 | 9,818 | 8,035 | 6,292 | 114 |
| Brazil | - | - | 1/ | 93 | - |
| Chile | - | - | - | 4 | - |
| Costa Rica | - | - | - | 4 | 15 |
| Czechoslovakia | - | - | - | - | 108 |
| El Salvador | - | - | 4 | - | - |
| France | 557 | 5,382 | - | 129 | 290 |
| Germany, West | 9,713 | 8,652 | 11,459 | 2,165 | 3,483 |
| Guatemala | - | - | - | 1 | - |
| Israel | 19 | - | 25 | - | 3 |
| Japan | 9,401 | 6,264 | 6,149 | 7,565 | 9,058 |
| Leeward-Windward Is. | - | 1/ | - | - | - |
| Mexico | 199 | 151 | 177 | 281 | 272 |
| Netherlands | 10,449 | 10,839 | 10,791 | 18,048 | 11,057 |
| New Zealand | 1 | - | - | 1 | - |
| Philippines | - | - | - | - | 4 |
| Spain | 1 | - | - | - | 17 |
| Sweden | - | - | - | 54 | 54 |
| Switzerland | - | 549 | 684 | 94 | 430 |
| United Kingdom | 812 | 507 | 36 | 637 | 1,253 |
| United States | 37,494 | 43,278 | 34,052 | 33,460 | 31,659 |
| U.S.S.R. | - | - | 24 | - | - |
| Venezuela | 10 | - | 1 | 22 | 24 |
| Total | <u>76,941</u> | <u>85,544</u> | <u>71,441</u> | <u>68,925</u> | <u>57,841</u> |
| Total Value (\$'000) | <u>8,124</u> | <u>9,458</u> | <u>13,812</u> | <u>21,171</u> | <u>22,939</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 32CANADIAN IMPORTS OF GROUND MUSTARD

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| France | - | 5 | - | - | 4 |
| Germany, West | - | 4 | 4 | <u>1/</u> | 2 |
| Hong Kong | 1 | 1 | 1 | <u>1/</u> | <u>1/</u> |
| India | - | - | - | - | <u>1/</u> |
| Japan | - | - | 1 | <u>1/</u> | <u>1/</u> |
| People's Republic of China | 1 | - | - | 3 | |
| Taiwan | - | - | - | - | 2 |
| United Kingdom | 239 | 207 | 271 | 306 | 317 |
| United States | 125 | 63 | 41 | 56 | 65 |
| Total | <u>366</u> | <u>280</u> | <u>319</u> | <u>368</u> | <u>393</u> |
| Total Value (\$'000) | <u>347</u> | <u>314</u> | <u>407</u> | <u>424</u> | <u>522</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

CHAPTER 8

OTHER OILSEED CAKE AND MEAL

Canadian miscellaneous oilseed cake and meal imports (including copra meal, sunflower meal, mustard meal and cake, cocoa expeller meal and copra expeller meal) for 1975 returned to the level of 1973 after increasing substantially in 1974 (Table 33). These imports remain nominal in relation to imports of soybean meal and are likely to continue to be, except for some uses, given the present world stocks and prices for soybeans.

Cottonseed meal imports increased slightly in 1975 over 1974 but remain at a level of only 25% of the unusually large volume of 1973. Oilseed cake and meal (n.e.s.) imports in 1975 continued at an elevated level over recent years but dropped about 30% from the peak year of 1974.

Exports of Canadian oilseed cake and meal (n.e.s.) in 1975 were limited to four metric tons to St. Pierre and Miquelon (Table 34).

TABLE 33CANADIAN IMPORTS OF MISCELLANEOUS OILSEED CAKE AND MEALS

(Metric Tons)

| <u>PRODUCT</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|
| Cottonseed Meal | 114 | 95 | 1,228 | 307 | 317 |
| Oilseed Cake & Meal (n.e.s.) | 227 | 352 | 1,411 | 3,303 | 2,317 |
| Total | 341 | 447 | 2,639 | 3,610 | 2,634 |
| Total Value (\$'000) | 33 | 48 | 506 | 598 | 390 |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 34

CANADIAN EXPORTS OF OILSEED CAKES AND MEALS (NES)
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|---------------|---------------|----------------|-------------|-------------|
| Barbados | 16 | 10 | - | - | - |
| Belgium-Luxembourg | - | - | 54 | - | - |
| Bermuda | - | - | 29 | - | - |
| Cuba | 2 | 7 | - | - | - |
| France | - | - | 1,887 | - | - |
| Germany, West | - | - | 36 | - | - |
| Guyana | 7 | 9 | - | - | - |
| Italy | - | 2 | 9,353 | - | - |
| Japan | - | - | 70,725 | - | - |
| Korea, South | - | 2 | - | - | - |
| Leeward-Windward Is. | 43 | - | - | - | - |
| Netherlands-Antilles | 2,609 | 3,397 | 9,334 | - | - |
| Norway | - | - | 18 | - | - |
| Philippines | - | 994 | - | - | - |
| St. Pierre-Miquelon | - | - | - | - | 4 |
| United Kingdom | 6,573 | 33,798 | 547 | - | - |
| United States | 1,494 | 10,482 | 20,590 | - | - |
| TOTAL | <u>10,745</u> | <u>48,704</u> | <u>112,575</u> | <u>-</u> | <u>4</u> |
| Total Value (\$'000) | <u>554</u> | <u>2,883</u> | <u>6,706</u> | <u>-</u> | <u>1</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 9

DEODORIZED FATS AND OILS

This chapter deals with the Canadian production of margarine, shortening and salad oils, the importation of cocoa butter, coconut, corn, cottonseed, olive, palm, palm kernel and peanut oils and the imports and exports of other vegetable fats and oils (n.e.s.).

Vegetable oils accounted for 86% of the total Canadian production of margarine, shortening and salad oils in 1975, up from 84% in 1974. Marine oils remained at 2% of the production in both years while animal fats dropped from 14% in 1974 to 12% in 1975 (Table 35). Margarine oil increased its portion of deodorized fats and oils production from 26% in 1974 to 28% in 1975. Shortening oil production accounted for 48% in 1975 against 50% in 1974 and salad oil continued to use 24% of production in both years.

Cocoa butter imports decreased substantially in 1975 to the lowest level in five years (Table 37). Canada purchased this lesser amount from only eight nations as opposed to the 15 who sold to this country in 1974. No imports were reported from Australia, Ghana, Nigeria and the United States while imports from the Netherlands and the United Kingdom increased significantly. The average price per metric ton increased by more than 100% from \$1,521.67 in 1974 to \$3,296.19 in 1975.

Imports of coconut oil in 1975 remained at an average level for the past five years (Table 38). However, the average cost per metric ton declined approximately 50% from \$953.45 in 1974 to \$464.63 in 1975. Sri Lanka continues to be our major supplier with the Philippines replacing Malaysia as a second major supplier. Australia's exports of coconut oil to Canada in 1975 replaced Fiji as a supplier.

Corn oil imports in 1975 remained at the same level as in 1974 which was somewhat higher than in previous years. The United States supplied 99.9% of the product (Table 39). In terms of average cost per metric ton Canada paid \$718.67 in 1975 compared with \$869.86 in 1974 but this was still well over the level of \$400.00 - \$500.00 of the previous three years.

Imports of cottonseed oil were practically unchanged in 1975 over 1974 and the United States was our only supplier (Table 40). Average cost per metric ton declined to \$677.39 in 1975 from \$724.72 in 1974 but was almost 100% over the level of \$280.00 - \$370.00 in 1971/72/73.

Olive oil imports dropped to the lowest level in five years (Table 41). Spain and Italy continue to be our major suppliers with Greece increasing its exports of this commodity to Canada from 1974 to 1975 by approximately 400% to become another major supplier. Average cost per metric ton has increased steadily from \$905.66 in 1971 to \$2,095.17 in 1975. 1975's price is up from \$1,909.05 in 1974.

Palm oil imports in 1975 have shown the greatest increase of any of the imported oils. Imports in 1975 were 250% higher than in 1974 with approximately 90% coming from Malaysia and Indonesia (Table 42). The Ivory Coast became a supplier of this product for the first time in a number of years. Average price per metric ton fell from the peak of \$658.74 in 1974 to \$473.49 in 1975. However, the current cost is more than 100% greater than the average of \$175.00 - \$235.00 in 1971/72/73.

Imports of palm kernel oil did not keep pace with the increase in palm oil between 1974 and 1975, however, they did increase slightly (Table 43). Malaysia remained our major supplier, shipping some 80% of our requirements. Indonesia became a secondary supplier along with the United States. In terms of average cost per metric ton a 50% reduction occurred in 1975 from the level prevailing in 1974 (\$503.73 versus \$1,018.97). This new level of cost is still substantially over the \$215.00 - \$365.00 level of the early 1970's.

Peanut oil imports continue at historic amounts (Table 44). Brazil has come to challenge the United States as our major supplier. Senegal has also appeared for the first time in the last five years as a new supplier of quantity. The cost per metric ton decreased slightly from 1974, \$911.58 to \$869.12 in 1975. Again these figures are considerably higher than the level of \$370.00 - \$510.00 which prevailed in 1971/72/73.

Imports of other vegetable fats and oils (n.e.s.) decreased by 50% in 1975 from 1974, but were still almost double those of 1971 and 1972 (Table 36). Greece became one of our major suppliers for the first time.

Exports of other vegetable fats and oils (n.e.s.) increased by approximately 25% in 1975 over 1974 (Table 45). Haiti and Saudi Arabia became customers for the first time while Cuba increased her imports of these commodities from Canada substantially.

TABLE 35

CANADIAN PRODUCTION OF DEODORIZED FATS AND OILS

(Metric Tons)

| | 1 9 7 4 | | | | 1 9 7 5 | | | |
|-----------------------|------------------|-------------------|--------------|---------|------------------|-------------------|--------------|---------|
| | Margarine Oil | Shortening Oil | Salad Oil | Total | Margarine Oil | Shortening Oil | Salad Oil | Total |
| VEGETABLE OILS | | | | | | | | |
| Coconut | 285 | 10,509 | 17 | 10,811 | 374 | 16,184 | 116 | 16,674 |
| Corn | 4,722 | 161 | X | X | 5,908 | 87 | X | X |
| Cottonseed | 18 | 4,347 | 399 | 4,764 | 249 | 4,326 | 380 | 4,955 |
| Palm | 4,046 | 9,072 | 119 | 13,237 | 6,241 | 25,554 | 1,476 | 33,271 |
| Palm Kernel | 4 | 3,889 | - | 3,893 | 10 | 5,039 | 91 | 5,140 |
| Peanut | - | 2,334 | X | X | - | 2,480 | X | X |
| Rapeseed | 28,769 | 29,655 | 32,801 | 91,225 | 33,709 | 22,043 | 38,816 | 94,568 |
| Soybean | 41,013 | 54,411 | 22,535 | 117,959 | 39,695 | 46,189 | 19,446 | 105,330 |
| Sunflowerseed | 48 | 1,863 | 7,413 | 9,324 | 45 | 241 | X | X |
| Other Vegetable | 186 | 530 | 26 | 742 | 567 | 296 | 168 | 1,031 |
| TOTAL VEGETABLE OILS | 79,093 | 116,774 | 76,529 | 272,396 | 86,798 | 122,439 | 80,314 | 289,551 |
| MARINE OILS | | | | | | | | |
| Herring | 2,873 | 2,076 | - | 4,949 | 3,385 | 3,127 | - | 6,512 |
| Seal | 137 | 337 | - | 474 | 231 | - | - | 231 |
| Whale | - | - | - | - | - | - | - | - |
| Other Marine | 43 | 461 | - | 504 | 45 | 225 | - | 270 |
| TOTAL MARINE OILS | 3,053 | 2,874 | - | 5,927 | 3,661 | 3,352 | - | 7,013 |
| ANIMAL FATS | | | | | | | | |
| Lard | 2,020 | 19,307 | - | 21,327 | 1,763 | 13,049 | - | 14,812 |
| Oleo, All Types | - | 1,208 | - | 1,208 | 4 | 669 | - | 673 |
| Tallow, Edible | 220 | 22,339 | 8 | 22,567 | 1,031 | 23,820 | - | 24,851 |
| TOTAL ANIMAL FATS | 2,240 | 42,854 | 8 | 45,102 | 2,798 | 37,538 | - | 40,336 |
| TOTAL ALL FATS & OILS | 84,386 | 162,502 | 76,537 | 322,425 | 93,257 | 163,329 | 80,314 | 336,900 |

TABLE 35 (Cont'd)

X Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 32-006

TABLE 36

CANADIAN IMPORTS OF VEGETABLE OILS AND FATS (NES)
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| Austria | - | 5 | 6 | 1 | 10 |
| Belgium-Luxembourg | - | - | - | 18 | - |
| Brazil | 14 | 9 | 35 | 18 | 14 |
| Denmark | 1 | 163 | 10 | 140 | 146 |
| France | 1 | 51 | 2 | 2 | 1 |
| Germany, West | 3 | 1 | 16 | 72 | 6 |
| Greece | - | - | - | 185 | 545 |
| Hong Kong | 12 | 27 | 22 | 30 | 31 |
| India | - | - | - | <u>1/</u> | <u>1/</u> |
| Ireland | - | - | - | - | - |
| Israel | - | 1 | 6 | - | - |
| Japan | 13 | 22 | 28 | 59 | 33 |
| Lebanon | <u>1/</u> | 2 | 1 | - | <u>1/</u> |
| Netherlands | - | - | - | - | 64 |
| Malaysia | <u>1/</u> | <u>1/</u> | - | - | - |
| Peoples' Republic of China | 1 | <u>1/</u> | 1 | 5 | 7 |
| Singapore | - | - | - | <u>1/</u> | - |
| Switzerland | 11 | 26 | 1 | 1 | 3 |
| Syria | - | - | - | 1 | - |
| Taiwan | - | - | - | <u>1/</u> | <u>1/</u> |
| United Kingdom | - | 18 | 289 | 1,994 | 572 |
| United States | 1,158 | 1,428 | 4,077 | 3,441 | 1,521 |
| Yugoslavia | - | 1 | 1 | - | 6 |
| TOTAL | <u>1,218</u> | <u>1,760</u> | <u>4,501</u> | <u>5,973</u> | <u>2,965</u> |
| Total Value (\$'000) | <u>656</u> | <u>859</u> | <u>1,597</u> | <u>7,447</u> | <u>3,129</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 37

CANADIAN IMPORTS OF COCOA BUTTER

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Australia | - | - | - | 1,019 | - |
| Brazil | 101 | 250 | 351 | 1,677 | 426 |
| Cuba | 60 | 172 | 99 | - | 60 |
| Dominican Republic | - | - | 145 | 33 | - |
| Ecuador | - | - | - | 246 | - |
| Germany, West | - | - | 99 | 283 | 37 |
| Ghana | 2,667 | 2,631 | 1,198 | 1,016 | - |
| Guinea | - | - | - | 25 | - |
| Ireland | 62 | 34 | 42 | - | - |
| Ivory Coast | 50 | 762 | 99 | 977 | 236 |
| Jamaica | 30 | 132 | 50 | 44 | - |
| Leeward-Windward Is. | - | - | - | 30 | - |
| Mexico | - | 56 | 22 | - | 184 |
| Netherlands | 1,701 | 1,773 | 2,073 | 98 | 1,521 |
| Nigeria | - | 93 | 841 | 3,173 | - |
| Trinidad-Tobago | 4 | - | - | 10 | - |
| United Kingdom | 1,397 | 153 | 1,274 | 211 | 1,283 |
| United States | 539 | 238 | 295 | 4,241 | 613 |
| TOTAL | 6,614 | 6,298 | 6,593 | 13,175 | 4,362 |
| Total Value (\$'000) | 8,576 | 7,807 | 12,925 | 20,048 | 14,378 |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 38CANADIAN IMPORTS OF COCONUT OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Australia | 1,950 | - | 661 | 993 | 2,218 |
| British Oceania | - | - | 46 | - | - |
| Fiji | 2,453 | 318 | - | 1,721 | <u>1/</u> |
| Finland | - | - | - | - | 68 |
| Germany, West | 1 | <u>1/</u> | - | 1 | 1 |
| Jamaica | 1 | 6 | <u>1/</u> | - | - |
| Leeward-Windward Islands | - | - | 1 | - | - |
| Malaysia | 5,462 | 597 | 6,744 | 7,907 | 3,902 |
| Netherlands | 7 | 513 | 1,322 | - | - |
| Norway | - | - | - | <u>1/</u> | - |
| Philippines | 258 | 10,856 | 8,490 | 67 | 7,137 |
| Puerto Rico | - | - | 3 | 18 | - |
| Singapore | 16 | 42 | 4 | 5 | - |
| Sri Lanka | 3,050 | 14,248 | 1,728 | 8,096 | 10,540 |
| United Kingdom | 290 | 1,236 | 370 | 719 | 346 |
| United States | 7,149 | 4,474 | 1,922 | 2,423 | 1,600 |
| TOTAL | <u>20,644</u> | <u>32,294</u> | <u>21,297</u> | <u>21,956</u> | <u>25,816</u> |
| Total Value (\$'000) | <u>6,465</u> | <u>6,311</u> | <u>7,643</u> | <u>20,934</u> | <u>11,995</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 39CANADIAN IMPORTS OF CORN OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|---------------|---------------|
| France | - | <u>1/</u> | - | <u>1/</u> | <u>1/</u> |
| Germany, West | - | - | 309 | - | - |
| Netherlands | 1,235 | - | - | - | - |
| United Kingdom | 1,583 | 934 | 1,067 | 1,605 | - |
| United States | 5,200 | 7,244 | 5,226 | 8,752 | 10,172 |
| TOTAL | <u>8,018</u> | <u>8,178</u> | <u>6,603</u> | <u>10,358</u> | <u>10,173</u> |
| Total Value (\$'000) | <u>3,588</u> | <u>3,183</u> | <u>3,291</u> | <u>9,010</u> | <u>7,311</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 40CANADIAN IMPORTS OF COTTONSEED OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|---------------|---------------|--------------|---------------|---------------|
| United Kingdom | - | - | - | <u>1/</u> | - |
| United States | 10,393 | 10,190 | 8,402 | 11,333 | 11,289 |
| Total | <u>10,393</u> | <u>10,190</u> | <u>8,402</u> | <u>11,334</u> | <u>11,289</u> |
| Total Value (\$'000) | <u>3,582</u> | <u>2,868</u> | <u>3,102</u> | <u>8,214</u> | <u>7,647</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 41

CANADIAN IMPORTS OF OLIVE OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Belgium-Luxembourg | <u>1/</u> | - | - | - | - |
| France | 15 | 45 | 30 | 38 | 30 |
| Germany, West | 1 | - | - | - | - |
| Greece | 394 | 386 | 130 | 105 | 417 |
| Israel | - | - | - | - | - |
| Italy | 686 | 925 | 698 | 773 | 611 |
| Lebanon | <u>1/</u> | - | - | - | - |
| Morocco | - | 20 | - | - | - |
| Portugal | 268 | 276 | 273 | 241 | 150 |
| Spain | 683 | 1,137 | 899 | 1,170 | 709 |
| Sweden | - | - | - | 8 | - |
| Switzerland | - | - | - | - | 17 |
| Tunisia | - | - | - | - | 22 |
| Turkey | 3 | - | - | 1 | 1 |
| United States | 118 | 111 | 54 | 66 | 29 |
| | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> |
| Total | 2,173 | 2,902 | 2,086 | 2,408 | 1,986 |
| | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> |
| Total Value (\$'000) | 1,968 | 2,854 | 2,795 | 4,597 | 4,161 |
| | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 42

CANADIAN IMPORTS OF PALM OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Germany, West | <u>1/</u> | - | 3 | 1 | - |
| Indonesia | - | - | - | 2,011 | 13,085 |
| Ivory Coast | - | - | - | - | 1,385 |
| Malaysia | 12,807 | 29,043 | 19,558 | 10,503 | 23,675 |
| Singapore | - | - | - | 1,020 | 509 |
| United Kingdom | 1 | 1,528 | <u>1/</u> | 3 | <u>1/</u> |
| United States | 53 | 289 | 16 | 2,658 | 2,627 |
| Total | <u>12,862</u> | <u>30,861</u> | <u>19,578</u> | <u>16,199</u> | <u>41,283</u> |
| Total Value (\$'000) | <u>2,913</u> | <u>5,521</u> | <u>4,560</u> | <u>10,671</u> | <u>19,547</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 43CANADIAN IMPORTS OF PALM KERNEL OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Congo-Kinshasa | 2,353 | - | - | - | - |
| Hong Kong | - | - | - | 200 | - |
| Indonesia | - | - | - | - | 473 |
| Malaysia | 230 | 4,400 | 4,474 | 2,970 | 3,966 |
| Netherlands | 20 | 15 | 142 | 78 | 13 |
| Nigeria | 1,868 | 626 | 975 | - | - |
| Singapore | - | 707 | - | - | - |
| United States | 429 | - | 351 | 1,126 | 640 |
| Total | <u>4,902</u> | <u>5,749</u> | <u>5,943</u> | <u>4,376</u> | <u>5,092</u> |
| Total Value (\$'000) | <u>1,568</u> | <u>1,257</u> | <u>2,160</u> | <u>4,459</u> | <u>2,565</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 44

CANADIAN IMPORTS OF PEANUT OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Belgium-Luxembourg | - | 1,269 | - | - | - |
| Brazil | - | - | - | - | 2,444 |
| France | 19 | 74 | - | - | 18 |
| Gambia | 613 | 797 | - | - | - |
| Hong Kong | 80 | 90 | 94 | 190 | 97 |
| Italy | 1 | - | - | - | - |
| Japan | - | - | - | - | 5 |
| Netherlands | - | 203 | - | - | - |
| Nigeria | 508 | 266 | 2,155 | - | - |
| Senegal | - | - | - | - | 507 |
| United Kingdom | - | - | - | 519 | 680 |
| United States | 4,111 | 4,697 | 5,132 | 4,808 | 3,095 |
| Total | <u>5,333</u> | <u>7,398</u> | <u>7,382</u> | <u>5,519</u> | <u>6,846</u> |
| Total Value (\$'000) | <u>2,155</u> | <u>2,766</u> | <u>3,769</u> | <u>5,031</u> | <u>5,950</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 45

1/

CANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS (NES)
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|-----------------------------|--------------|--------------|---------------|-------------|-------------|
| Australia | 426 | - | - | - | 2/ |
| Bahamas | 2 | 2 | 5 | - | - |
| Barbados | 39 | 34 | 28 | 43 | 10 |
| Bermuda | 5 | 3 | 20 | 2 | - |
| British Honduras | 2/ | 1 | 1 | - | - |
| Costa Rica | - | 3 | - | - | - |
| Cuba | 3 | 8 | 14 | 1 | 183 |
| Cyprus | - | - | - | - | 2/ |
| El Salvador | - | 2/ | - | - | - |
| France | - | - | - | - | - |
| Germany, West | - | - | - | 1 | 2/ |
| Greenland | - | - | 1/ | - | - |
| Guatemala | - | 1 | - | - | - |
| Guyana | 26 | 37 | 26 | 154 | 6 |
| Haiti | - | - | - | - | 111 |
| Honduras | - | - | 6 | - | - |
| Hong Kong | - | 1,234 | 419 | - | - |
| Italy | 2/ | - | - | - | - |
| Jamaica | - | 18 | 6 | 1 | 1 |
| Japan | - | 2/ | - | - | - |
| Kenya | 1 | 2 | 2 | 1/ | - |
| Kuwait | - | - | - | 11 | - |
| Leeward-Windward Is. | 53 | 40 | 31 | 9 | 63 |
| Mexico | - | - | 9 | - | - |
| Netherlands-Antilles | 2/ | 1 | - | - | - |
| Nigeria | 1/ | - | - | - | - |
| Pakistan | - | 2,266 | - | - | - |
| Saudi Arabia | - | - | - | - | 99 |
| Sierra Leone | 5 | - | - | - | - |
| South Africa | - | - | - | 2/ | 2/ |
| St. Pierre-Miquelon | 1 | 2/ | 1 | 2/ | - |
| Trinidad-Tobago | 262 | 132 | 133 | 159 | 29 |
| United Kingdom | 3,756 | 4,439 | 12,100 | - | 71 |
| United States | 608 | 874 | 445 | 375 | 364 |
| U.S. Oceania | 2 | - | - | - | - |
| Total | 5,195 | 9,097 | 13,249 | 763 | 944 |
| Total Value (\$'000) | 1,854 | 3,093 | 1,238 | 513 | 512 |

1/ This export class No. 393-99 includes sunflower oil, salad & cooking oil and certain speciality fats like pan greases. Prior to 1973 it included rapeseed oil.

2/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 10

SPECIFIED FATS AND OILS

Production of both margarine and butter (Table 46) jumped dramatically in 1975. Butter and whole milk production were doubtless spurred by the increase in the target support price for milk announced during the year. While the utilization of butterfat in manufactured dairy products (Table 52) showed a marked increase from the previous year, it is interesting to note that actual butter consumption declined in 1975 compared to the previous year by 27 million pounds or 9%.

Shortening production declined in total in the year under review, although consumer-sized packages showed a substantial increase from previous years. In addition, imports of shortening (Table 47) continued the rapid climb shown in 1974. There was a striking reduction in imports of vegetable cooking fats and packaged salad oils (Table 49) perhaps indicating an increase in the use of domestically produced product.

Production of salad oil in 1975 increased by 4,000 metric tons over 1974, reflecting a continued steady demand for this product.

The reduction in lard production of some 7,000 metric tons (Table 46) is indicative of the reduction of 14% in the hog slaughter compared to the previous year. Lard production will probably decline a further 5% in 1976 in line with the expected reduction in hog slaughter. While total beef slaughtering for the year were up some 12% over 1974, edible tallow production increased only slightly more than 6%. This was probably due to the lighter weight cattle that were marketed and the fact that they carried less fat than in the previous year, due to the change in type of feeding.

Canada continued to be a net importer of lard (Tables 48 and 50) even though imports declined by 31% from 1974.

In 1975 Cuba and the United States continued to be major customers for tallow and animal oils and fats, (Table 51). Sales to Japan continued the decline shown in previous years, South Korea gained importance as an export market for these

products, and shipments to the Netherlands, People's Republic of China and the U.K., all major trading partners, declined. For the first time sales of these products were made to the U.S.S.R.

As noted in last year's reports, production and sales of all animal fats and oils which are by-products of the slaughterings and meat processing industries depend on livestock numbers available for slaughter. Comment has already been made on lard production for 1976, edible and inedible tallow production will likely be at about the same level as in 1975.

TABLE 46CANADIAN PRODUCTION OF SPECIFIED FATS AND OILS PRODUCTS

(Thousands of Metric Tons)

| | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|
| Margarine ^{1/} | 90 | 96 | 98 | 108 | 119 |
| Butter ^{2/} | 134 | 136 | 98 | 108 | 131 |
| <u>SHORTENING</u> | | | | | |
| Packaged ^{3/} | 19 | 16 | 17 | 17 | 23 |
| Bulk ^{4/} | 128 | 141 | 163 | 154 | 148 |
| <u>REFINED OILS</u> | | | | | |
| Salad | 54 | 64 | 69 | 77 | 81 |
| Lard | 63 | 55 | 50 | 50 | 43 |
| <u>TALLOW</u> ^{6/} | | | | | |
| Edible | 17 | 20 | 18 | 16 | 17 |
| Inedible | 181 | 184 | 184 | 182 | 182 |

1/ Includes retail and commercial packages. Commercial sales (21-450 pound) packages account for about 3% of total output.

2/ Includes factory and farm butter.

3/ Retail packages up to 20 pounds only.

4/ Covers commercial (21-450 pound) packages, bulk and other than packaged retail sales of manufacturers of shortening and deodorized shortening oil. Includes baking and frying fats and oils.

5/ Rendered lard includes shipments of processed lard in retail and commercial packages and bulk sales.

6/ Shipments for year.

SOURCE: Statistics Canada, Catalogue No. 32-006.

TABLE 47

CANADIAN IMPORTS OF MARGARINE AND SHORTENING
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Denmark | - | - | 1 | - | - |
| Germany, West | 1 | 5 | 1 | 9 | 1 |
| Greece | - | - | 3 | - | - |
| Norway | 1 | - | - | - | - |
| Sweden | 55 | 80 | 39 | 69 | 5 |
| United States | 2,723 | 5,047 | 4,314 | 11,903 | 15,695 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Total | 2,781 | 5,133 | 4,360 | 11,983 | 15,701 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Total Value (\$'000) | 1,126 | 1,643 | 1,743 | 9,005 | 11,399 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 48

CANADIAN EXPORTS OF MARGARINE, SHORTENING AND LARD
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|----------------|----------------|----------------|----------------|----------------|
| Bahamas | 8 | - | - | - | 1 |
| Barbados | - | - | 39 | - | - |
| Bermuda | 22 | 24 | 22 | 22 | 14 |
| Germany, West | - | - | - | - | 1 |
| Greenland | - | <u>1/</u> | 3 | - | - |
| Guyana | <u>1/</u> | - | - | - | - |
| Jamaica | 5 | 8 | 4 | 30 | 22 |
| Japan | - | - | - | 18 | - |
| Leeward-Windward Islands | <u>1/</u> | <u>1/</u> | <u>1/</u> | <u>1/</u> | 3 |
| Netherlands-Antilles | 6 | 2 | 3 | 1 | - |
| St. Pierre-Miquelon | 41 | 51 | 50 | 44 | 42 |
| Trinidad-Tobago | - | - | - | - | <u>1/</u> |
| United States | 284 | 148 | 22 | 234 | 182 |
| Yemen | - | - | <u>1/</u> | - | - |
| Total | <u>369</u> | <u>235</u> | <u>144</u> | <u>352</u> | <u>268</u> |
| Total Value (\$'000) | <u>118</u> | <u>91</u> | <u>100</u> | <u>290</u> | <u>248</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue 65-004

TABLE 49CANADIAN IMPORTS OF VEGETABLE COOKING FATSAND PACKAGED SALAD OILS

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Denmark | 1 | - | - | 2 | - |
| France | - | 20 | - | 17 | 12 |
| Germany, West | - | 1 | - | - | - |
| Greece | - | - | 8 | 18 | 15 |
| Hong Kong | <u>1/</u> | 1 | 1 | - | - |
| Israel | - | - | - | 1,000 | - |
| Italy | - | 8 | - | - | - |
| Singapore | - | 1 | - | - | - |
| Sweden | <u>1/</u> | 17 | 26 | 18 | 14 |
| United Kingdom | 1 | 4 | 285 | 16 | 57 |
| United States | 376 | 488 | 709 | 386 | 594 |
| | — | — | — | — | — |
| Total | 380 | 543 | 1,030 | 1,461 | 692 |
| | — | — | — | — | — |
| Total Value (\$'000) | 182 | 234 | 636 | 471 | 389 |
| | — | — | — | — | — |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 50

CANADIAN IMPORTS OF LARD, TALLOW, ANIMAL OILS AND FATS
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>LARD</u> | | | | |
|--------------------------|--------------|--------------|--------------|---------------|---------------|
| | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
| Australia | - | - | 1 | 9 | - |
| Norway | - | - | - | - | 1/ |
| United States | 6,085 | 9,782 | 7,158 | 17,671 | 12,118 |
| Total | <u>6,085</u> | <u>9,782</u> | <u>7,160</u> | <u>17,680</u> | <u>12,119</u> |
| Total Value (\$'000) | <u>1,493</u> | <u>2,258</u> | <u>2,531</u> | <u>12,306</u> | <u>8,276</u> |

TALLOW, ANIMAL OILS AND FATS (NES)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Australia | - | 9 | 22 | 3 | 11 |
| Germany, West | - | - | 1 | - | 10 |
| Netherlands | - | 673 | - | - | - |
| United Kingdom | 2 | - | 1 | - | - |
| United States | 9,883 | 8,871 | 3,228 | 4,314 | 2,134 |
| Total | <u>9,885</u> | <u>9,553</u> | <u>3,253</u> | <u>4,318</u> | <u>2,155</u> |
| Total Value (\$'000) | <u>1,996</u> | <u>1,929</u> | <u>1,226</u> | <u>1,803</u> | <u>768</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 51

CANADIAN EXPORTS OF TALLOW, ANIMAL OILS AND FATS (NES)

(Metric Tons)

| DESTINATION | 1971 | 1972 | 1973 | 1974 | 1975 |
|-------------------------------|----------------|----------------|---------------|----------------|---------------|
| Barbados | - | - | 23 | 90 | 27 |
| Belgium-Luxembourg | 588 | 2,438 | 1,183 | 598 | 996 |
| Bermuda | <u>1/</u> | <u>1/</u> | - | - | - |
| Brazil | - | - | - | 97 | - |
| Colombia | - | - | - | - | 52 |
| Cuba | 1,394 | 995 | 4,904 | 13,638 | 13,587 |
| Dominican Republic | - | - | - | 18 | - |
| France | 1,603 | <u>1/</u> | 949 | 1,002 | 5 |
| Germany, West | 963 | 902 | 1,470 | - | 300 |
| Ghana | - | 249 | - | 596 | 749 |
| Guatemala | - | 1 | - | 32 | 21 |
| Guyana | - | - | - | - | 136 |
| Ireland | - | - | - | - | 300 |
| Italy | - | - | - | - | 548 |
| Jamaica | 66 | 6 | 28 | 238 | 299 |
| Japan | 25,753 | 22,713 | 19,460 | 15,376 | 10,400 |
| Kenya | 1,578 | 54 | - | - | - |
| Korea, South | - | - | 985 | 5,272 | 15,700 |
| Leeward-Windward Is. | 113 | 69 | 59 | 4 | - |
| Malaysia | 30 | 18 | - | - | 73 |
| Mexico | - | - | - | 16 | 25 |
| Morocco | - | - | - | - | 574 |
| Netherlands | 19,430 | 23,920 | 6,709 | 24,184 | 16,697 |
| Netherlands-Antilles | - | - | - | 3 | - |
| Nigeria | - | - | - | - | 924 |
| Norway | - | - | 297 | 16 | 71 |
| Pakistan | 193 | - | - | - | - |
| People's Republic of China | 9,668 | 21,421 | 9,948 | 11,112 | 5,589 |
| Portugal | - | - | - | - | 52 |
| Puerto Rico | - | - | - | 17 | - |
| Senegal | - | - | - | 997 | 708 |
| Singapore | 11 | 1 | - | 36 | 158 |
| South Africa | 860 | - | - | - | - |
| Spain | 4,903 | 3,354 | 936 | 1,550 | 9,656 |
| St. Pierre-Miquelon | - | <u>1/</u> | <u>1/</u> | <u>1/</u> | - |
| Surinam | 15 | 22 | - | - | - |
| Sweden | <u>1/</u> | - | - | - | - |
| Switzerland | 13 | 33 | 93 | 150 | 209 |
| Taiwan | - | 694 | - | - | - |
| Trinidad-Tobago | 1,195 | 803 | 588 | 326 | 294 |
| United Kingdom | 21,700 | 17,725 | 22,140 | 13,803 | 5,541 |
| United States | 13,551 | 11,965 | 16,221 | 10,885 | 11,044 |
| U.S.S.R. | - | - | - | - | 3,774 |
| Venezuela | - | - | 18 | 193 | 69 |
| Zaire | - | - | - | - | 747 |
| Zambia | - | 27 | - | 1,203 | - |
| Total | <u>103,638</u> | <u>107,423</u> | <u>87,042</u> | <u>101,458</u> | <u>99,335</u> |
| Total Value (\$'000) | <u>19,228</u> | <u>16,479</u> | <u>24,407</u> | <u>41,253</u> | <u>32,218</u> |

TABLE 51 (Cont'd)

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 52

CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

(Thousands of Metric Tons)

| Year | <u>Total Milk Production</u> | | <u>Butterfat Utilization</u> | | | |
|------|------------------------------|--|---|--------------------------------------|---------------------------|---------------------|
| | <u>Whole Milk</u> | <u>Butterfat Equivalent^{1/}</u> | <u>Manufactured Dairy Products^{2/}</u> | <u>Fluid Milk Sales^{3/}</u> | <u>Farm Home Consumed</u> | <u>Fed on Farms</u> |
| 1966 | 8,334 | 291 | 183 | 83 | 13 | 11 |
| 1967 | 8,259 | 289 | 180 | 82 | 13 | 10 |
| 1968 | 8,329 | 290 | 184 | 81 | 13 | 10 |
| 1969 | 8,487 | 297 | 191 | 80 | 13 | 10 |
| 1970 | 8,306 | 290 | 183 | 82 | 12 | 10 |
| 1971 | 8,062 | 282 | 174 | 83 | 11 | 10 |
| 1972 | 8,032 | 281 | 177 | 86 | 7 | 10 |
| 1973 | 7,659 | 261 | 155 | 87 | 7 | 11 |
| 1974 | 7,561 | 259 | 153 ^{6/} | 89 | 6 | 11 |
| 1975 | 8,017 | 273 | 169 | 87 | 5 | 12 |

BUTTERFAT UTILIZATION IN MANUFACTURED DAIRY PRODUCTS

| <u>Year</u> | <u>Total</u> | <u>Creamery Butter</u> | <u>Cheese^{4/}</u> | <u>Concentrated Whole Milk Products</u> | <u>Ice-Cream Mix</u> |
|-------------|-------------------|------------------------|----------------------------|---|----------------------|
| 1966 | 181 | 122 | 34 | 13 | 10 |
| 1967 | 180 | 121 | 33 | 13 | 11 |
| 1968 | 184 | 123 | 34 | 12 | 11 |
| 1969 | 191 | 129 | 35 | 24 | 5/ 5/ |
| 1970 | 183 | 121 | 37 | 23 | 16 |
| 1971 | 174 | 106 | 38 | 10 | 16 |
| 1972 | 177 | 108 | 38 | 10 | 16 |
| 1973 | 155 | 92 | 38 | 10 | 14 |
| 1974 | 153 ^{6/} | 85 | 44 ^{6/} | 9 | 14 |
| 1975 | 169 | 104 | 41 | 9 | 15 |

TABLE 52 (Cont'd)FOOTNOTES TO CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

- 1/ Fat content of milk based on conversion factor of 3.5%.
- 2/ Includes creamery butter, cheddar cheese (bulk of all Canadian cheese production), other cheese, concentrated whole milk products, ice-cream mix.
- 3/ Fluid milk sales represent whole milk sales from farms for use in milk and cream.
- 4/ Includes mainly cheddar cheese and other factory cheese made from whole milk and cream. Excludes creamed cottage cheese.
- 5/ Included with concentrated whole milk products.
- 6/ Revised figure.

SOURCE: Based on unpublished Statistics Canada data.

TABLE 53

INDUSTRY SELLING PRICE INDEXES FOR CERTAIN FATS
(1961 - 100)

| <u>PRODUCT</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> ^{1/} |
|-------------------------|-------------|-------------|-------------|-------------|---------------------------|
| Butter, Creamery | 107.9 | 111.3 | 114.9 | 128.5 | 169.2 |
| Lard | 109.3 | 117.2 | - | - | - |
| Margarine ^{2/} | 122.9 | 123.3 | 142.1 | 231.7 | 227.5 |
| Margarine ^{3/} | 113.0 | 112.1 | 124.3 | 213.5 | 211.5 |
| Shortening | 100.2 | 100.2 | 129.6 | 188.9 | 208.2 |

1/ To October only.

2/ As reported by slaughtering and meat packing firms.

3/ As reported by other manufacturers.

SOURCE: Statistics Canada, Catalogue No. 62-002.

CHAPTER 11

MARINE AND FISH OILS AND MEALS

Industry Trends - Catch and Utilization

The landings of herring which reached a peak plateau of about half a million metric tons in the late sixties, continued on a descending trend in the seventies declining to a low of 270,253 metric tons in 1974. In 1975 the catch increased by 10% to 298,000 metric tons.

In addition to the drop in the herring catch, the progressive diversion of supplies from reduction to food herring has continued in 1975 and is likely to continue in the future. With the strengthening of the Western European herring food markets due to diminishing catches, a governmental task force is currently studying the possibility of diverting in 1976, 35,000 to 50,000 tons of herring from reduction to meal and oil to herring products for human consumption.

It is too early to assess the benefits on herring stocks, particularly on the east coast from the proposed establishment by Canada of a 200-mile economic fishing zone. However, any increase in supplies are likely to be gradual and it is expected that every effort will be made towards utilizing herring for food.

Production - Marine Oils

The total marine oil production in Canada from fish and whales was further reduced in 1975 by lack of raw material supplies. The overall decline compared to 1974 was 54% from 23,239 metric tons to 10,763 metric tons and occurred entirely on the Atlantic coast (Table 54). Production on the Pacific coast was lower by only 22 metric tons. The salmon oil production decreased by 46% from 415 metric tons to 226 metric tons while the herring oil production increased by 30% from 585 metric tons in 1974 to 762 metric tons in 1975.

On the Atlantic coast, the shortfalls were substantial for all production; groundfish body or offal oil was down from 7,222 to 4,192 metric tons (-42%) and herring oil lower by 61% from 13,936 metric tons in 1974 to 5,378 in 1975.

Fish Meals

The decline in fish meal production in 1975 compared to 1974 was not as accentuated as it was in the production of oil. The total reduction for both coasts was 10% from 51,657 metric tons to 46,840 tons (Table 57). The Atlantic region experienced a decrease of 13% from 45,505 metric tons to 39,765 while the Pacific coast production was higher by 15% at 7,075 metric tons in 1975 as compared to 6,152 metric tons in 1974.

Exports and Imports

Exports of marine oils have continued to fall sharply from 11,000 metric tons in 1971 to 8,845 metric tons in 1974 and to a low of 4,891 in 1975 (Table 56). Imports at 878 metric tons in 1975 were slightly higher than the previous but still substantially lower than the average of 1971-73 of about 1,500 metric tons (Table 55).

Exports of fish meal in 1975 declined from 34,678 the previous year to 24,291 metric tons while imports increased from 261 metric tons in 1974 to 311 metric tons in 1975 (Tables 58 and 59).

TABLE 54

CANADIAN PRODUCTION OF MARINE OILS BY TYPES AND AREAS
(Metric Tons)

| <u>PRODUCT</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> ^{1/} |
|---------------------------|---------------|---------------|----------------------------|
| <u>ATLANTIC COAST</u> | | | |
| <u>Body or Offal Oil:</u> | | | |
| Groundfish | 11,039 | 7,222 | 4,192 |
| Herring | 15,022 | 13,936 | 5,378 |
| Other ^{2/} | 394 | 755 | 19 |
| <u>Liver Oil:</u> | | | |
| Groundfish | 419 | 226 | 96 |
| ATLANTIC TOTAL | <u>26,874</u> | <u>22,139</u> | <u>9,685</u> |
| <u>PACIFIC COAST</u> | | | |
| <u>Body or Offal Oil:</u> | | | |
| Herring | 1,105 | 585 | 762 ^{3/} |
| Salmon | 802 | 415 | 226 ^{3/} |
| Other | 217 | 100 | 90 ^{3/} |
| PACIFIC TOTAL | <u>2,124</u> | <u>1,100</u> | <u>1,078</u> ^{3/} |
| CANADA TOTAL | <u>28,998</u> | <u>23,239</u> | <u>10,763</u> |

1/ Preliminary

2/ Primarily whale oil

3/ Estimate

SOURCE: Based on Environment Canada data.

TABLE 55

CANADIAN IMPORTS OF FISH AND MARINE OILS (NES)
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|-------------|-------------|
| Denmark | - | - | 6 | <u>1/</u> | 1 |
| France | - | - | - | <u>1/</u> | - |
| Germany, West | - | - | - | <u>1/</u> | - |
| Japan | 4 | - | 6 | 89 | - |
| Norway | 2 | 167 | 134 | 179 | 629 |
| South Africa | 249 | 73 | 89 | 92 | - |
| United Kingdom | 232 | 234 | 323 | 165 | 49 |
| United States | <u>1,070</u> | <u>1,175</u> | <u>676</u> | <u>322</u> | <u>199</u> |
| TOTAL | <u>1,559</u> | <u>1,651</u> | <u>1,237</u> | <u>849</u> | <u>878</u> |
| Total Value (\$'000) | <u>747</u> | <u>439</u> | <u>424</u> | <u>467</u> | <u>500</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 56CANADIAN EXPORTS OF MARINE OILS BY TYPES

(Metric Tons)

| <u>PRODUCT</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|
| Cod Liver Oil, Sun Rotted | 2,313 | 998 | 1,270 | 1,043 | 868 |
| Herring Oil | 5,216 | 3,401 | 2,812 | 5,488 | 2,277 |
| Whale Oil | 2,857 | 2,177 | 1,224 | - | - |
| Fish & Marine Animal Oil, NES | 635 | 635 | 2,676 | 2,313 | 1,746 |
| TOTAL | 11,022 | 7,212 | 7,983 | 8,845 | 4,891 |
| Total Value (\$'000) | 2,237 | 1,368 | 1,795 | 3,763 | 1,837 |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 57CANADIAN PRODUCTION OF FISH MEALS BY TYPES AND AREAS

| <u>PRODUCT</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> ^{1/} |
|-----------------------|---------------|---------------|---------------------------|
| <u>ATLANTIC COAST</u> | | | |
| Groundfish | 34,485 | 26,700 | 24,779 |
| Herring | 13,650 | 16,484 | 14,399 |
| Other | 1,721 | 2,321 | 587 |
| ATLANTIC TOTAL | <u>49,856</u> | <u>45,505</u> | <u>39,765</u> |
| <u>PACIFIC COAST</u> | | | |
| Herring | 4,278 | 4,711 | 6,078 ^{2/} |
| Salmon | 1,561 | 887 | 453 ^{2/} |
| Other | 592 | 554 | 544 ^{2/} |
| PACIFIC TOTAL | <u>6,431</u> | <u>6,152</u> | <u>7,075</u> |
| CANADA TOTAL | <u>56,287</u> | <u>51,657</u> | <u>46,840</u> |

^{1/} Preliminary^{2/} EstimateSOURCE: Based on Environment Canada data.

TABLE 58

CANADIAN IMPORTS OF FISH MEAL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|--------------|-------------|-------------|-------------|
| Denmark | - | - | - | 10 | - |
| France | - | - | - | - | 59 |
| Germany, West | - | - | - | <u>1</u> / | - |
| Japan | - | - | - | - | 2 |
| Peru | - | 944 | 21 | - | - |
| Puerto Rico | - | 20 | 81 | - | 41 |
| United Kingdom | - | - | - | 2 | - |
| United States | 22 | 255 | 379 | 245 | 209 |
| TOTAL | <u>22</u> | <u>1,220</u> | <u>482</u> | <u>261</u> | <u>311</u> |
| Total Value (\$'000) | <u>5</u> | <u>216</u> | <u>121</u> | <u>83</u> | <u>87</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 59

CANADIAN EXPORTS OF FISH MEAL AND CONDENSED SOLUBLES
(Metric Tons)

| <u>PRODUCT</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|---|---------------|---------------|---------------|---------------|---------------|
| Herring Meal and Pilchard Meal | 41,129 | 20,605 | 12,997 | 16,281 | 14,733 |
| Fish Meal NES | 21,452 | 12,089 | 16,386 | 18,393 | 9,515 |
| Fish Condensed Homogenized Solubles | 98 | 176 | 185 | - | 43 |
| TOTAL (Meal Only) | <u>62,679</u> | <u>32,870</u> | <u>29,568</u> | <u>34,678</u> | <u>24,291</u> |
| TOTAL VALUE (Meal Only) (\$'000) | <u>11,524</u> | <u>6,703</u> | <u>11,023</u> | <u>12,160</u> | <u>6,071</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 12

THE CANADIAN FLAXSEED SITUATION

Canadian Supply and Disposition of Flaxseed, Linseed Oil and Linseed Meal

Flaxseed production declined from a high of 47.9 million bushels in the 1970/71 crop year to 13.8 million bushels in the 1974/75 crop year (Table 60).

Since only two crushing plants are now operating, the domestic crush in 1974/75 is not reported by Statistics Canada. However, in 1973/74 the crush fell below the one million bushel mark. The principal reason for the decline has been reduced world demand for linseed oil.

Canadian Exports of Flaxseed

Although Canada continues to be the world's largest exporter of flaxseed, exports have been on a continual decline since 1971 (Table 61). The major markets continue to be West Germany, Japan, the Netherlands, Poland, Czechoslovakia and the U.K. The worldwide recession which resulted in reduced industrial activity and relatively high prices has been responsible largely for the declining exports.

Canadian Exports of Linseed Oil

Canadian exports of linseed oil increased in 1975 over 1974 mainly because of lower prices, however, exports in 1975 were well below the average of 1971 through 1973 (Table 64).

Canadian Exports of Linseed Cake and Meal

Exports of linseed meal (Table 65) have declined in 1974 and 1975 even more dramatically from their 1971-73 levels than has been the case with linseed oil.

Flaxseed Prices

Flaxseed prices (Table 66) began to climb in June 1973 reaching their peak of \$12.19 per bushel in October 1974. Decreased world production and tight supplies were responsible for the price increases. Prices in January 1975 began to decline due to lack of demand and a build-up in the supplies of the main exporting countries, Canada, U.S.A. and Argentina.

Linseed oil is used almost entirely as an industrial oil in the manufacture of organic coatings such as paints, varnishes and linoleum. In these uses it has been largely replaced by other oils such as soybean oil as well as by petroleum derived products. Linseed oil is then facing increasing competition from substitutable materials and as a result its use appears to be declining.

TABLE 60

CANADIAN SUPPLY AND DISPOSITION OF FLAXSEED,
LINSEED OIL AND LINSEED MEAL

(Crop Year)

| | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|--------------------------------|------------------------|----------------|----------------|----------------|-----------------|
| | (Thousands of Bushels) | | | | |
| <u>FLAXSEED</u> | | | | | |
| Stocks, Starting ^{1/} | 6,570 | 25,306 | 16,032 | 7,673 | 7,911 |
| Production | 47,966 | 22,387 | 17,617 | 19,400 | 13,800 |
| Imports | - | - | 3 | 17 | 16 |
| Exports | 21,194 | 25,741 | 19,640 | 15,503 | 10,519 |
| Domestic Crushing | 2,827 | 3,101 | 2,633 | 762 | x ^{2/} |
| <u>LINSEED OIL</u> | | | | | |
| | (Metric Tons) | | | | |
| Exports | 11,611 | 14,919 | 10,588 | 2,230 | 2,184 |
| Domestic Production | 24,947 | 26,762 | 22,762 | 6,601 | x ^{2/} |
| <u>LINSEED MEAL</u> | | | | | |
| | (Metric Tons) | | | | |
| Exports | 13,480, | 20,539 | 12,735 | 24 | 196 |
| Domestic Production | 45,359 | 49,875 | 42,037 | 11,932 | x ^{2/} |

1/ Total Stocks in all positions.

2/ Confidential - to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006

TABLE 61CANADIAN EXPORTS OF FLAXSEED

(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Australia | - | 12,031 | - | 5,633 | - |
| Austria | - | - | - | - | 34 |
| Belgium-Luxembourg | 26,290 | 28,552 | 11,886 | 7,477 | 2,951 |
| Czechoslovakia | 6,867 | 5,973 | 15,826 | 25,004 | 17,717 |
| Denmark | 1,691 | 316 | 2,062 | - | - |
| Finland | 2,088 | - | - | - | - |
| France | 11,963 | 8,181 | 7,772 | 5,202 | 1,848 |
| Germany, East | 3,939 | - | - | 3,860 | - |
| Germany, West | 89,938 | 79,224 | 117,865 | 110,680 | 77,619 |
| Greece | 4,449 | 11,238 | 1,371 | 2,184 | 1,050 |
| Israel | 1,847 | - | - | - | - |
| Italy | 16,014 | 7,910 | 12,755 | - | - |
| Japan | 118,347 | 107,328 | 110,123 | 77,027 | 65,330 |
| Korea, South | 13,957 | 4,714 | 2,971 | - | - |
| Lebanon | 3,279 | 3,484 | - | - | - |
| Morocco | - | - | - | - | - |
| Netherlands | 224,258 | 252,705 | 86,808 | 41,289 | 31,516 |
| New Zealand | - | - | - | 2,199 | - |
| Norway | 4,470 | 4,000 | - | - | - |
| Panama | - | - | - | - | 2,117 |
| Poland | - | - | - | 23,263 | 18,926 |
| Spain | 29,698 | 11,734 | 10,833 | 6,500 | 6,580 |
| Sweden | - | - | - | - | 72 |
| Switzerland | 3,193 | 10,739 | 1,906 | 1,237 | 108 |
| Syria | 749 | - | - | - | - |
| Trinidad-Tobago | - | - | - | - | 2 |
| United Kingdom | 61,122 | 46,902 | 49,841 | 31,337 | 15,573 |
| United States | 1,916 | 2 | 1,170 | 12,659 | 3,493 |
| TOTAL | 626,087 | 594,597 | 433,200 | 351,031 | 244,942 |
| Total Value (\$'000) | 63,849 | 68,511 | 112,984 | 148,631 | 83,815 |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 62

CANADIAN IMPORTS OF FLAXSEED
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Kenya | - | 2 | - | - | - |
| United States | <u>1/</u> | <u>15</u> | <u>86</u> | <u>451</u> | <u>337</u> |
| Total | <u>1/</u> | <u>17</u> | <u>86</u> | <u>451</u> | <u>337</u> |
| Total Value (\$'000) | <u>-</u> | <u>3</u> | <u>25</u> | <u>333</u> | <u>171</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 63

QUALITY DATA FOR WESTERN CANADIAN FLAXSEED, SURVEY SAMPLES OF 1974 AND 1975 CROPS

| WESTERN CANADA | Oil Content ^{1/} | | | Iodine Value | | | Protein Content ^{2/} | | | No. of Samples | | |
|----------------|---------------------------|------|-----------------------|--------------|------|-----------------------|-------------------------------|------|-----------------------|----------------|------|-----------------------|
| | 1974 | 1975 | 1974/75 ^{3/} | 1974 | 1975 | 1974/75 ^{3/} | 1974 | 1975 | 1974/75 ^{3/} | 1974 | 1975 | 1974/75 ^{3/} |
| No. 1 CW | 43.9 | 42.1 | 43.3 | 195 | 188 | 193 | 41.3 | 42.6 | 39.4 | 197 | 246 | 985 |
| No. 2 CW | 43.7 | 42.2 | 43.0 | 198 | 188 | 197 | 38.1 | 42.4 | 38.6 | 49 | 33 | 77 |
| No. 3 CW | 41.6 | 41.4 | 40.8 | 198 | 188 | 195 | 34.4 | 43.8 | 36.3 | 31 | 11 | 18 |
| No. 4 CW | 33.4 | - | 34.4 | 196 | - | 191 | 28.6 | - | 27.4 | 2 | - | 1 |
| All Grades | 43.5 | 42.1 | 43.2 | 196 | 188 | 193 | 39.9 | 42.6 | 39.3 | 279 | 290 | 1,081 |
| ALL GRADES | | | | | | | | | | | | |
| Manitoba | 43.4 | 41.7 | - | 198 | 185 | - | 39.1 | 42.8 | - | 113 | 135 | - |
| Saskatchewan | 44.0 | 42.1 | - | 196 | 189 | - | 39.7 | 42.9 | - | 130 | 103 | - |
| Alberta | 42.3 | 43.2 | - | 189 | 195 | - | 43.0 | 41.4 | - | 36 | 52 | - |

^{1/} Oil Content of seed is reported on moisture-free basis.

^{2/} Protein Content is reported on oil-free meal and moisture-free basis.

^{3/} Crop year final.

SOURCE: Canadian Grain Commission, Crop Bulletin No. 129

TABLE 64

CANADIAN EXPORTS OF LINSEED OIL

(Metric Tons)

| DESTINATION | 1971 | 1972 | 1973 | 1974 | 1975 |
|----------------------|---------------|---------------|--------------|------------|--------------|
| Bahamas | <u>1/</u> | <u>1/</u> | - | - | - |
| Barbados | 2 | 2 | - | - | - |
| Belgium-Luxembourg | - | - | - | - | 1,526 |
| Bermuda | <u>1/</u> | 1 | - | - | 1 |
| Ecuador | - | - | 1 | - | - |
| Germany, West | - | 711 | - | - | - |
| Guatemala | - | - | - | - | - |
| Jamaica | - | - | - | - | <u>1/</u> |
| Liberia | - | - | - | 2 | 2 |
| Netherlands | - | - | - | - | 1,590 |
| Netherlands-Antilles | - | - | - | - | - |
| Nigeria | - | - | <u>1/</u> | - | - |
| United Kingdom | 10,915 | 14,488 | 5,962 | 581 | 398 |
| United States | 76 | 839 | 96 | - | 36 |
| Venezuela | 12 | 40 | 18 | 8 | 7 |
| Total | <u>11,007</u> | <u>16,082</u> | <u>6,078</u> | <u>592</u> | <u>3,562</u> |
| Total Value (\$'000) | <u>2,421</u> | <u>3,276</u> | <u>2,314</u> | <u>655</u> | <u>3,237</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 65

CANADIAN EXPORTS OF LINSEED CAKE AND MEAL
(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|---------------|---------------|--------------|-------------|-------------|
| Barbados | 816 | 816 | - | - | - |
| Belgium-Luxembourg | 307 | - | - | - | - |
| Denmark | - | 1,872 | - | - | - |
| Germany, West | 1,610 | 3,744 | - | - | - |
| Guyana | 2 | 5 | - | - | - |
| Leeward-Windward Is. | 176 | 124 | 4 | - | - |
| Netherlands | 5,493 | 3,173 | 1,873 | - | - |
| Trinidad-Tobago | 377 | 416 | 168 | 49 | 114 |
| United Kingdom | 2,261 | 4,852 | 2,313 | - | - |
| United States | 1,623 | 2,693 | 1,151 | 64 | 80 |
| Total | <u>12,669</u> | <u>17,699</u> | <u>5,511</u> | <u>114</u> | <u>194</u> |
| Total Value (\$'000) | <u>1,046</u> | <u>1,398</u> | <u>822</u> | <u>24</u> | <u>37</u> |

SOURCE: Statistics Canada Catalogue No. 65-004.

TABLE 66

CANADIAN FLAXSEED PRICES^{1/}
(Crop Year)

| <u>M O N T H</u> | <u>1970/71</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> |
|------------------|----------------|--------------------------------------|----------------|----------------|----------------|
| | | (Cents and Eighths per Bushel) | | | |
| August | 269/2 | 234/6 | 305/7 | 878/7 | 1099/7 |
| September | 272/3 | 226/7 | 325/4 | 885/6 | 1172 |
| October | 263/5 | 243/2 | 357/7 | 898/6 | 1219/1 |
| November | 253 | 238/4 | 353 | 1018/5 | 1094/2 |
| December | 246/2 | 236/3 | 366/7 | 1060/5 | 1066/5 |
| January | 244/6 | 248/7 | 436/4 | 1122/6 | 922/4 |
| February | 249/4 | 259 | 535/6 | 1167 | 810/5 |
| March | 251/4 | 277/6 | 483/3 | 1107 | 784/1 |
| April | 257/2 | 285 | 478 | 967/3 | 861/3 |
| May | 248/7 | 271/2 | 552/6 | 991/6 | 825/6 |
| June | 245/5 | 277/2 | 701/7 | 979/5 | 779/7 |
| July | 242 | 288/1 | 895/6 | 1095/2 | 815/2 |
| Yearly Average | <u>253/5</u> | <u>257/2</u> | <u>482/6</u> | <u>1014/4</u> | <u>954/2</u> |

^{1/} Winnipeg Grain Exchange No. 1 C.W. Flaxseed, basis Thunder Bay.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 13

OTHER INEDIBLE FATS AND OILS

Castor, tung and tall oils, tall oil pitch, tall oil fatty acids, chemically modified oils, fats and waxes and mixtures and derivatives of oils, fats and waxes comprise the other inedible fats and oils that are dealt with in this chapter.

Imports of castor oil continue to be at the level of recent annual shipments (Table 67). Brazil remains our major supplier, with a small quantity coming from the United States. The price this year averaged \$612.68 compared with \$746.62 in 1974 and \$1,025.48 in 1973. In 1971 and 1972 the price per metric ton was relatively stable between \$425.00 and \$475.00.

Tung oil imports were up 50% over 1974 at 690 metric tons, the big increase coming from the United States (Table 68). The People's Republic of China dropped from being the major supplier to that of third in importance in 1975. Cost per metric ton decreased to \$639.13 from \$724.71 in 1974. These figures were considerably above the range of \$235.00 to \$425.00 of the early 1970's.

Canadian imports of tall oil, tall oil pitch and tall oil fatty acids remained at historic levels for 1975, with the United States being our only supplier apart from two metric tons from the People's Republic of China (Table 69). Average prices for these commodities followed the trend of other inedible oils last year dropping to \$463.74 per metric ton from \$502.22 in 1974. From 1971 to 1973 the average price fluctuated between \$200.00 and \$265.00.

Canada continues to import chemically modified oils, fats and waxes from a number of foreign countries (Table 70). The United States is our major supplier. However, the United Kingdom shipped a large quantity to Canada in 1975. On an average price per metric ton basis costs escalated to \$1,183.76 in 1975 from \$951.38 in 1974 and from the much lower level of \$445.00 to \$535.00 in 1971/72/73.

The United States supplied 98% of Canada's imports of mixtures and derivatives of oils, fats and waxes in 1975 with Brazil being a small new supplier (Table 71). Total imports were the smallest in five years. The trend in the

average price per metric ton approximates that of chemically modified oils, fats and waxes, i.e., \$753.83 in 1975 from \$670.01 in 1974 and the level of \$420.00 - \$455.00 in the early 1970's.

Canadian exports of chemically modified oils, fats and waxes showed a 50% increase in quantity in 1975 over 1974 but value declined by almost 50% (Table 72). The average price per metric ton obtained was \$174.83 compared with \$474.49 in 1974 and a range of \$280.00 to \$400.00 in the early 1970's. The United States continues to be our only major purchaser (97% in 1975).

TABLE 67

CANADIAN IMPORTS OF CASTOR OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Brazil | 2,377 | 2,023 | 2,401 | 1,529 | 1,697 |
| Colombia | - | - | 8 | - | - |
| United Kingdom | 2 | - | - | - | - |
| United States | 242 | 147 | 377 | 320 | 211 |
| Total | <u>2,621</u> | <u>2,170</u> | <u>2,787</u> | <u>1,850</u> | <u>1,908</u> |
| Total Value (\$'000) | <u>932</u> | <u>1,035</u> | <u>2,858</u> | <u>1,646</u> | <u>1,169</u> |

SOURCE: Statistics Canada Catalogue No. 65-007

TABLE 68

CANADIAN IMPORTS OF TUNG OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|--------------|--------------|-------------|-------------|
| Argentina | 298 | 584 | 991 | 127 | 141 |
| Brazil | - | - | 14 | - | - |
| Paraguay | 314 | 229 | 57 | 42 | 56 |
| People's Rep. of China | 10 | 20 | 89 | 183 | 70 |
| United States | 259 | 189 | 88 | 70 | 423 |
| Total | <u>882</u> | <u>1,023</u> | <u>1,241</u> | <u>425</u> | <u>690</u> |
| Total Value (\$'000) | <u>290</u> | <u>240</u> | <u>527</u> | <u>308</u> | <u>441</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 69

CANADIAN IMPORTS OF TALL OIL, TALL OIL PITCH
AND TALL OIL FATTY ACIDS

| | (Metric Tons) | | | | |
|------------------------------------|---------------|--------------|--------------|--------------|--------------|
| | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
| <u>TALL OIL AND TALL OIL PITCH</u> | | | | | |
| Netherlands | - | - | 4 | - | - |
| United States | 2,010 | 1,578 | 1,502 | 2,254 | 2,378 |
| <u>TALL OIL FATTY ACIDS</u> | | | | | |
| People's Republic of China | - | - | - | - | 2 |
| Switzerland | <u>1/</u> | - | - | - | - |
| United States | <u>6,629</u> | <u>6,912</u> | <u>5,807</u> | <u>4,715</u> | <u>5,053</u> |
| TOTAL | <u>8,640</u> | <u>8,490</u> | <u>7,314</u> | <u>6,969</u> | <u>7,433</u> |
| Total Value (\$'000) | <u>1,796</u> | <u>1,718</u> | <u>1,931</u> | <u>3,500</u> | <u>3,447</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 70CANADIAN IMPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Brazil | - | - | - | 20 | 69 |
| Denmark | 6 | 1 | 1 | - | <u>1/</u> |
| France | 14 | <u>1/</u> | <u>1/</u> | 3 | - |
| Germany, West | 6 | 3 | 3 | 8 | 8 |
| Greece | 21 | - | - | - | 3 |
| Japan | - | - | 15 | - | - |
| Netherlands | 331 | 410 | 418 | 398 | 442 |
| Netherlands-Antilles | - | - | - | - | 23 |
| Switzerland | - | - | - | - | <u>1/</u> |
| United Kingdom | 44 | 30 | 419 | 55 | 1,125 |
| United States | <u>4,556</u> | <u>3,319</u> | <u>6,569</u> | <u>5,198</u> | <u>4,176</u> |
| TOTAL | <u>4,981</u> | <u>3,764</u> | <u>7,425</u> | <u>5,677</u> | <u>5,850</u> |
| Total Value (\$'000) | <u>2,224</u> | <u>1,776</u> | <u>3,985</u> | <u>5,401</u> | <u>6,925</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 71

CANADIAN IMPORTS OF MIXTURES AND DERIVATIVES
OF OILS, FATS AND WAXES
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Belgium-Luxembourg | - | - | - | 1 | - |
| Brazil | - | - | - | - | 20 |
| France | - | 1/ | - | 3 | 6 |
| Germany, West | 90 | 362 | 41 | 103 | 98 |
| Japan | 1 | - | - | - | - |
| Netherlands | 2 | 1 | 2 | 1 | - |
| Sweden | - | - | 2 | - | - |
| United Kingdom | 141 | 197 | 147 | 66 | 153 |
| United States | 11,828 | 13,906 | 15,144 | 14,780 | 10,886 |
| Total | 12,063 | 14,468 | 15,338 | 14,958 | 11,163 |
| Total Value (\$'000) | 5,095 | 6,079 | 6,996 | 10,022 | 8,415 |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 72CANADIAN EXPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES

(Metric Tons)

| <u>DESTINATION</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| Australia | <u>1/</u> | - | - | 1 | - |
| Bahamas | - | <u>1/</u> | - | <u>1/</u> | - |
| Barbados | - | - | - | - | 27 |
| Bermuda | 1 | <u>1/</u> | <u>1/</u> | - | - |
| Brazil | - | - | 22 | - | - |
| Cuba | - | 17 | - | - | - |
| Ecuador | - | 1 | - | - | - |
| France | 252 | 219 | - | 32 | 14 |
| Germany, West | 10 | 218 | 44 | 24 | <u>1/</u> |
| Guatemala | <u>1/</u> | - | - | - | - |
| Guyana | - | - | - | - | <u>1/</u> |
| Israel | - | - | - | - | 4 |
| Italy | - | 45 | 16 | - | - |
| Japan | 462 | 539 | 498 | 240 | 20 |
| Leeward-Windward Is. | <u>1/</u> | - | <u>1/</u> | - | - |
| Netherlands-Antilles | <u>1/</u> | 1 | - | 1 | - |
| New Zealand | 15 | - | - | - | - |
| Panama | - | - | <u>1/</u> | - | - |
| Peru | - | 2 | - | - | - |
| Sweden | 5 | - | - | - | - |
| United Kingdom | 953 | 587 | 19 | 36 | 18 |
| United States | 1,036 | 807 | 1,461 | 1,759 | 3,212 |
| Venezuela | 31 | 17 | - | 1 | 9 |
| TOTAL | <u>2,768</u> | <u>2,458</u> | <u>2,062</u> | <u>2,097</u> | <u>3,306</u> |
| Total Value (\$'000) | <u>778</u> | <u>930</u> | <u>821</u> | <u>995</u> | <u>578</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 14

SELECTED FINISHED PRODUCTS

Production of peanut butter responded to increased demand in 1975 showing a 4,000 metric ton gain over 1974 (Table 73). It would appear that in a period of rising food prices, consumers substitute peanut butter for other more expensive protein sources. One manufacturer entered the market with a well publicized new product which may have had the effect of increasing total sales. However, production of salad dressings and mayonnaise declined by a similar amount. Unfortunately, less than three manufacturers of sandwich spread were reporting to Statistics Canada for 1975 so no production figures are available. As the production of sandwich spread has been fairly constant over the past few years it is assumed that the figure would be in the range of 2,000 - 3,000 metric tons.

TABLE 73

CANADIAN PRODUCTION OF PEANUT BUTTER, SALAD DRESSINGS
AND MAYONNAISE, AND SANDWICH SPREADS
(Metric Tons)

| <u>PRODUCT</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> |
|-----------------------------------|---------------|---------------|---------------|---------------|-----------------|
| Peanut Butter | 24,811 | 26,308 | 25,628 | 29,211 | 33,202 |
| Salad Dressings and Mayonnaise | 32,613 | 35,698 | 39,326 | 41,504 | 38,369 |
| Sandwich Spreads | 2,494 | 2,630 | 2,948 | 2,766 | x ^{1/} |
| Total | <u>59,918</u> | <u>64,636</u> | <u>67,902</u> | <u>73,481</u> | <u>-</u> |

^{1/} Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 32-018

CONVERSION FACTORSSTATUTORY WEIGHT PER BUSHEL AND BUSHEL EQUIVALENT PER METRIC TON

| <u>OILSEED</u> | <u>Pounds</u> | <u>Kilograms</u> | <u>Bushel Equivalent Per Metric Ton</u> |
|----------------|---------------|------------------|---|
| Flaxseed | 56 | 25.402 | 39.368 |
| Soybeans | 60 | 27.216 | 36.744 |
| Rapeseed | 50 | 22.680 | 44.092 |
| Sunflowerseed | 30 | 13.608 | 73.487 |
| Mustardseed | 50 | 22.680 | 44.092 |

| <u>OILSEED PRODUCTS</u> | <u>Extraction Rate</u> | <u>Yield Per Bushel</u> | <u>Weight of Gallon</u> |
|---|----------------------------|---------------------------------|---------------------------------|
| | (Per Cent) | (Pounds) | (Pounds) |
| Flaxseed, Oil | 35.4 | 19.8 | 9.3 |
| Linseed Meal | 61.7 | 34.6 | - |
| Soybeans, Oil | 17.7 | 10.6 | 9.2 |
| Meal | 80.0 | 47.3 | - |
| Rapeseed, Oil ^{1/} | 40.0 | 20.0 | 9.1 |
| Meal | 57.5 | 28.75 | - |
| Sunflowerseed, Oil ^{2/} | 40.0 | 12.0 | 9.2 |
| Meal | 38.0 | 11.4 | - |
| Mustardseed, ^{3/} Oil (Yellow) | 28 | - | - |
| Oil (Oriental) | 40 | - | - |
| Oil (Brown) | 36 | - | - |

^{1/} Rapeseed oil yields seem to have reached a fairly stable level of about 40 per cent on an "as received" basis. The previous factor of 37.5 per cent has been changed accordingly.

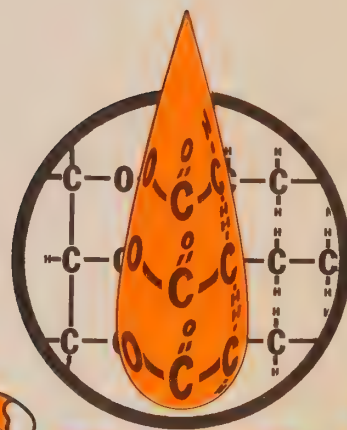
^{2/} The introduction of new sunflowerseed varieties has increased the oil yield on crushing to the 40 per cent level. The previous factor of 36 per cent has been changed accordingly. The meal yields continue to show fluctuations, and this factor has not been changed.

^{3/} Mustardseed is not crushed in Canada, and is primarily used for condiment purposes. Yellow, oriental and brown mustardseed varieties are grown in Canada, and the theoretical extraction rates reflect average oil contents of the seed, calculated on a dry basis.

OTHER PRODUCTS: Marine Oils: 1 Imperial gallon = 9.1 pounds.

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Gas & Oils in Canada

ANNUAL REVIEW 1976

ERRATA

Page 19 "(Pounds)" which appears in the Yield portion of Table 5 should be dropped one line so that it applies only to mustardseed and sunflowerseed.

Page 21 "539,671" the last figure in the last line of Table 7 should read "639,671".

Page 32 "Labanon" under the Destination column of Table 13 should read "Lebanon".

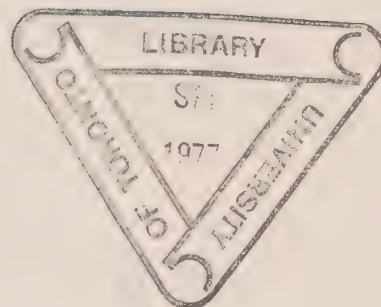
DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE

FATS AND OILS IN CANADA
ANNUAL REVIEW

JUNE 1977

Prepared by:

Grain Marketing Office
Department of Industry, Trade and Commerce
Ottawa, Ontario
Canada K1A 0H5



Contract No.: 08KT 67002-7-108-1023

ADDISON & STEELE
Printers & Publishers

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INTRODUCTION

"Fats and Oils in Canada - Annual Review 1976" represents the fourth annual issue of the publication. No issues were published for the years 1970 to 1973 inclusive.

The feature article in this issue provides information on federal assistance in market development for the Canadian fats and oils industry. It explains the origin of government assistance to the industry, indicates the organizations and programs involved and examines the basis focus of such assistance.

The statistical data contained in the publication has been obtained from Statistics Canada, Environment Canada, Canadian Grain Commission, United States Department of Agriculture, and Oil World. The tables resulting from this data have been grouped into related product areas to permit ease of consideration. The total figures in the tables, particularly those dealing with imports and exports, have been rounded which accounts for any apparent discrepancies in the totals.

"Fats and Oils in Canada - Annual Review 1976" is intended to be a working document for people concerned with the development of the Canadian fats and oils industry. Suggestions and comments on this publication are welcome and should be addressed to:

Grain Marketing Office (40A),
Department of Industry, Trade
and Commerce,
Ottawa, Canada.
K1A 0H5

CHAPTER 1

FEDERAL ASSISTANCE IN MARKET DEVELOPMENT FOR THE CANADIAN FATS AND OILS INDUSTRY

The Grain Marketing Office (GMO) of the Department of Industry, Trade and Commerce (ITC) plays the leading role in the government's grains and oilseeds market development and related industrial development initiatives. Co-ordination with other departments is effected through the Grains Group.

A mandate for export trade promotion and other activities bearing directly on Canada's foreign and inter-provincial commerce was one of the earliest and most important assumed by the federal government.

Initially, and continuing until the early 1960's, the Department of Trade and Commerce carried the responsibility while also gradually increasing its role in the promotion and support of industrial development in Canada.

When the decision was made to greatly increase the level of government assistance for the development of new and existing industries and firms, a Department of Industry was established to direct and manage the emergent policies and programs. Subsequently, the two departments have been merged into Industry, Trade and Commerce.

Within the present department, responsibility for the development and maintenance of markets is, therefore, combined with a similar one for the maintenance and improvement of the supply base, including a constant upgrading of product through increased "value-added" processing. Grains and oilseeds constitute one of the industries to which this responsibility applies.

Grain marketing, handling and transportation in Canada are performed in a unique system which includes both the government and a private trade. The government's presence is most conspicuous in the form of the Canadian Wheat Board, a producers' marketing board and a Crown Agency, which effectively controls export and interprovincial trade in wheat, oats and barley produced in western Canada.

Other government departments and agencies also play vital parts in the maintenance and improvement of the industry. The major burden of scientific research into grains and oilseeds production, including varietal development, falls upon Agriculture Canada, as does the regulation of grading and handling through the Canadian Grain Commission. Transportation, one of the most important links in the marketing chain, particularly the long rail haul from the prairies to tidewater, is a major concern of the Ministry of Transport and the Canadian Transportation Commission.

In 1969-70, the deep and widespread commitment of the government to the grains and oilseeds industry was brought into sharp focus by the creation of the Special Group on Grains. One of its first, major accomplishments was the establishment of a comprehensive program of market development, known as the GOMI (Grains and Oilseeds Marketing Incentives) Program.

Chaired by the Hon. Otto E. Lang, Minister Responsible for the Canadian Wheat Board, the group (popularly known as the Grains Group) comprises advisors from Agriculture, Transport and ITC. Its prime role is policy formulation and problem solving. Under the general guidance of the Group, ITC is the government's functional authority in matters related to grains and oilseeds marketing.

In keeping with the terms of this relationship, ITC's Grains Program Office was expanded in 1971 to form the GMO and assigned the task of establishing an appropriate program under which to administer the market development funds which had been authorized. Concurrently, a Market Development Division was established. This division continues to administer the GOMI Program.

The government's market development activity supports the "extra step" into product innovation and imaginative marketing.

Whether manifested in new products and technologies, in ventures into new markets or new techniques for maintaining established ones, the primary purpose is a sustained expansion of sales of grains, oilseeds and their derivatives. Both domestic and international markets are eligible targets.

Essentially, it is the implementation of a philosophy of risk-sharing with the entrepreneur who is prepared and qualified to attempt the extra step across new frontiers of development. "Normal" risks are considered the everyday business of the principal and are not shared. It is when he wished to pursue opportunities beyond his ordinary financial or managerial capability that market development assistance can provide encouragement and support. Even the identification of such opportunities may be an eligible activity.

Since market development assistance and support is intended only for "incremental" risks associated with innovative market thrusts, it is conversely true that ordinary, short-term sales promotions generally are not eligible.

Broadly speaking, three categories of activities are considered to fall within the sphere of market development in this context. They are: identification and penetration of new or improved commercial products and; establishing in Canada new capabilities needed to carry out development projects.

Emphasis is on initiatives originated and pursued in the private sector (defined as virtually any capable entity outside the federal government) because it is a basic tenet that the government itself does not engage in development projects. Subject always to the proviso that programs and projects undertaken must have a demonstrated potential for furthering the market development objective, universities and other institutions, including industry and trade associations may qualify as applicants for assistance. The basic criterion is the ability of the proponent to follow through, capitalize on the results of the project and translate them into an economically sound venture.

While adhering to the principle of supporting rather than engaging directly in projects, the government also applies considerable money and professional expertise to direct assistance with the conception, organization, execution and follow up of individual projects and programs. Here, its extensive industry, trade and marketing information and research resources provide a depth of service beyond the scope of the majority of individual project proponents.

Since inception of the GOMI program, 87 project sponsors have requested support. Some 57 have been approved, 25 failed to meet the criteria and were rejected, another 5 are in the process of evaluation. Brief analysis shows that 34 approved projects were in the "market identification/development" category, 16 in "product and process development" and 7 in "Canadian capability".

Out of the total funding of \$5.7 million, the 16 product and process development projects received nearly \$3.0 million. This is of special significance to the oilseeds sector since many of these are concerned with the extraction, improvement and utilization of the components of oilseeds, especially rapeseed.

Although funded separately, the POS Pilot Plant project also originated in the Grains Group and GMO and has been followed to completion by the latter. This facility is unique in its financial and corporate structure. The federal government contributed 90 per cent of its \$5.0 million construction cost, but has ensured that control of its board of directors rests with the industrial representatives on it. The versatility and range of its pilot-scale processing equipment, including a solvent extractor, is also unique and should help to ensure Canada's pre-eminent position as a high-quality supplier of rapeseed and related products.

Strong support for the rapeseed industry is also reflected in the Rapeseed Utilization Assistance Program (RUAP). Annual funding of \$300,000 is administered by the Rapeseed Association of Canada, under a contract with GMO, in support of mutually-agreed projects to improve the quality and commercial acceptability of rapeseed and its products.

Involvement in other related organizations and groups such as the Rapeseed Association and the Canadian Committee on Fats and Oils assists GMO in keeping abreast of current industry problems to ensure the relevance of its responses and initiatives.

In summary, these programs and activities reflect the emphasis of federal assistance to the Canadian Fats and Oils industry in the area of market development. It is planned that they form the basic focus of such assistance in the immediate future.

CHAPTER 2

WORLD PRODUCTION AND TRADE IN FATS AND OILS

World Fats and Oils: Calculated Production

World production of fats and oils in 1977 is forecast at 48.2 million metric tons, which is 540,000 metric tons below the 1976 production (Table 1).

Over the past decade, world oil production has trended upwards by approximately 1.2 million metric tons annually but the 1977 forecast is 730,000 metric tons short of the projected 1965-75 trend. This should result in a stock drawdown, mostly in the producer-exporting countries. Supplies, however, should be adequate to provide for increasing world requirements.

In the palm and lauric oil sector, 1977 production of palm oil is expected to be up to 17 per cent over the 1976 production; world coconut oil output of 2.9 million metric tons in 1977 is 200,000 metric tons below the 1976 production. The anticipated decline is based on reduced rainfall in key growing areas of the Philippines.

World industrial oil output is expected to decline in 1977 because of the reduced production of linseed oil.

The world production of animal fats has shown very little change since 1971. The same situation prevails in regard to marine oils.

In order to reach projected trend levels for 1978, i.e. without considering any need for stock replacement, total world production of all fats and oils would have to increase by 2.5 million metric tons or 5 per cent compared to an average annual increase of 1.2 million metric tons in the past.

World Production of Major Oilseed Meals

The meal production statistics for 1976 are estimates only and the 1977 figure is a forecast; these indicate a decline in world production of oilseed meals of 3.6 million metric tons (Table 2). All of this cutback is attributed to soybean meal because of a short supply of beans.

The production of fishmeal and solubles is expected to increase by 100,000 metric tons.

The below-trend level of production of protein in the current season (1977) and a continuing high level of demand are likely to bring stocks down close to minimum working levels by the year end. Unusually large increases in output will be required in 1978 to replenish supplies.

In order to reach the projected trend levels for 1978, without considering need for stock replenishment, world increase by about 2.9 million metric tons or 9 per cent. This increase compares with average annual increases in the past of about 1.1 million metric tons.

World Net Exports of Oilseeds, Oils and Fats

In 1976/77 world net export availabilities of oils and fats, including the oil equivalent of oilseeds, will decline as compared to 1975/76 (Table 3). Assuming only a small increase in world market demand for oils and fats, there will be a reduction in net export availabilities over actual net exports of 1.06 million metric tons compared to 1975/76.

In the food sector the world market stocks could decline by 730,000 metric tons, or to about 1 million metric tons, the smallest since 1973/74.

In the non-food sector, 1976/77 world net export availabilities are expected to decline 94,000 metric tons and their excess over actual net exports to only 71,000 metric tons compared to a normal 125,000 metric tons.

World Net Exports and Availabilities of Oilmeals

The excess of world market availabilities over actual estimated net exports in 1976/77 (Table 4) could decline to only 790,000 metric tons including the meal equivalent of oilseeds (from 4.8 million metric tons in 1975/76). This level of stocks approaches the 536,000 metric tons in 1972/73 which resulted in an export embargo.

TABLE 1

WORLD OIL AND FAT: CALCULATED PRODUCTION^{1/}

(Thousands of Metric Tons)

| EDIBLE VEGETABLE OILS | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Cottonseed | 2,628 | 2,851 | 2,998 | 3,151 | 3,294 | 2,808 | 3,039 |
| Peanut | 3,376 | 3,500 | 2,906 | 3,064 | 3,057 | 3,557 | 3,635 |
| Soybean | 6,266 | 6,751 | 7,413 | 9,381 | 8,313 | 10,125 | 9,205 |
| Sunflower | 3,612 | 3,637 | 3,414 | 4,509 | 3,980 | 3,600 | 3,772 |
| Rapeseed | 2,515 | 2,599 | 2,479 | 2,410 | 2,609 | 2,677 | 2,512 |
| Sesame | 721 | 656 | 615 | 636 | 628 | 690 | 651 |
| Safflower | 226 | 300 | 239 | 210 | 210 | 303 | 200 |
| Olive ^{2/} | 1,437 | 1,559 | 1,450 | 1,548 | 1,419 | 1,770 | 1,528 |
| Corn | 280 | 287 | 303 | 303 | 278 | 293 | 300 |
| TOTAL | 21,061 | 22,140 | 21,817 | 25,212 | 23,788 | 25,823 | 24,842 |
| <u>PALM OILS^{3/}</u> | | | | | | | |
| Coconut | 2,454 | 2,824 | 2,433 | 2,236 | 2,868 | 3,077 | 2,880 |
| Palm Kernel | 462 | 454 | 435 | 490 | 512 | 543 | 578 |
| Palm | 1,925 | 2,131 | 2,238 | 2,627 | 2,942 | 3,151 | 3,565 |
| Babassu | 72 | 107 | 105 | 105 | 105 | 96 | 100 |
| TOTAL | 4,913 | 5,516 | 5,211 | 5,458 | 6,427 | 6,867 | 7,123 |
| <u>INDUSTRIAL OILS</u> | | | | | | | |
| Linseed | 1,236 | 860 | 720 | 750 | 714 | 820 | 754 |
| Castor | 349 | 322 | 416 | 501 | 382 | 302 | 350 |
| Oiticica | 20 | 14 | 1 | 11 | 11 | 15 | 14 |
| Tung | 141 | 139 | 87 | 114 | 91 | 109 | 96 |
| Olive Residue ^{4/} | 131 | 132 | 139 | 165 | 130 | 154 | 140 |
| TOTAL | 1,877 | 1,467 | 1,363 | 1,541 | 1,328 | 1,400 | 1,354 |
| <u>ANIMAL FATS</u> | | | | | | | |
| Butter (Fat Content) | 4,122 | 4,398 | 4,540 | 4,509 | 4,544 | 4,568 | 4,567 |
| Lard | 4,421 | 4,369 | 4,268 | 4,534 | 4,424 | 4,250 | 4,400 |
| Tallow, Grease | 4,568 | 4,526 | 4,453 | 4,955 | 4,599 | 4,800 | 4,850 |
| TOTAL | 13,111 | 13,293 | 13,261 | 13,998 | 13,567 | 13,618 | 13,817 |
| <u>MARINE OILS</u> | | | | | | | |
| Whale | 70 | 65 | 55 | 40 | 45 | 45 | 40 |
| Sperm Whale | 135 | 125 | 125 | 120 | 115 | 115 | 110 |
| Fish (Including Liver) | 1,173 | 934 | 809 | 996 | 972 | 860 | 900 |
| TOTAL | 1,378 | 1,124 | 989 | 1,156 | 1,132 | 1,020 | 1,050 |
| GRAND TOTAL | 42,340 | 43,540 | 42,641 | 47,365 | 46,242 | 48,728 | 48,186 |

TABLE 1 (Cont'd)FOOTNOTES TOWORLD OIL AND FAT: CALCULATED PRODUCTION^{1/}

- 1/ Years indicated are those in which most of given oil was produced.
- 2/ Excludes olive residue oil.
- 3/ Estimated on basis of exports and other information.
- 4/ Includes quantities of refined oil for edible purposes.

SOURCE: United States Department of Agriculture, FOP 22/76.

TABLE 2

WORLD PRODUCTION OF MAJOR OILSEED MEALS^{1/}
(Thousands of Metric Tons)

| <u>OILSEED MEALS</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976^{2/}</u> | <u>1977^{3/}</u> |
|----------------------|-------------|-------------|-------------|--------------------------|--------------------------|
| Soybean Meal | 33,300 | 42,140 | 37,340 | 45,520 | 41,350 |
| Cottonseed Meal | 8,580 | 9,030 | 9,460 | 8,080 | 8,730 |
| Peanut Meal | 3,490 | 3,680 | 3,670 | 4,210 | 4,370 |
| Sunflower Meal | 3,470 | 4,280 | 3,750 | 3,520 | 3,670 |
| Rapeseed Meal | 3,860 | 3,740 | 4,090 | 4,160 | 3,940 |
| Copra Meal | 1,330 | 1,220 | 1,570 | 1,680 | 1,580 |
| Palm Kernel Meal | 470 | 530 | 550 | 580 | 620 |
| Linseed Meal | 1,330 | 1,390 | 1,320 | 1,520 | 1,400 |
| TOTAL | 55,830 | 66,010 | 61,750 | 69,270 | 65,660 |
| Fish Meal & Solubles | 3,670 | 4,180 | 3,940 | 4,100 | 4,200 |
| WORLD TOTAL | 59,500 | 70,190 | 65,690 | 73,370 | 69,860 |

^{1/} Calculated from assumed crushings and extraction rates applied to that portion of each crop available for crushing and/or export and not actual crushings.

^{2/} Estimated.

^{3/} Forecast.

SOURCE: United States Department of Agriculture, FOP 21/76.

WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS^{1/}
(Thousands of Metric Tons)

| | A. Net Exports Availabilities | | | | B. Actual Net Exports | | | |
|-------------------------------|---------------------------------|---------|-----------------------|-----------------------|---------------------------------|---------|-----------------------|-----------------------|
| | 1973/74 | 1974/75 | 1975/76 ^{2/} | 1976/77 ^{3/} | 1973/74 | 1974/75 | 1975/76 ^{2/} | 1976/77 ^{3/} |
| | (Crop Year - October/September) | | | | (Crop Year - October/September) | | | |
| <u>Primarily for Food</u> | | | | | | | | |
| Soybeans and oil | 4430 | 4080 | 5580 | 4888 | 3864 | 3381 | 4739 | 4600 |
| Cottonseed and oil | 390 | 460 | 380 | 456 | 372 | 436 | 360 | 430 |
| Groundnuts and oil (6) | 575 | 565 | 740 | 727 | 535 | 513 | 630 | 680 |
| Sunflowerseed & oil | 1030 | 1100 | 770 | 655 | 862 | 728 | 692 | 630 |
| Rapeseed and oil | 740 | 730 | 970 | 832 | 708 | 651 | 741 | 780 |
| Sesameseed, as oil | 125 | 110 | 110 | 113 | 117 | 97 | 99 | 105 |
| Olive oil (4).. ^{2/} | 270 | 260 | 440 | 480 | 224 | 203 | 226 | 280 |
| Total, Liquid veget. | 7560 | 7305 | 8990 | 8151 | 6682 | 6009 | 7487 | 7505 |
| Copra & coconut oil | 975 | 1340 | 1840 | 1804 | 947 | 1292 | 1827 | 1780 |
| Palm kernels & oil | 365 | 400 | 410 | 425 | 357 | 391 | 403 | 420 |
| Palm oil | 1335 | 1780 | 2000 | 2300 | 1304 | 1740 | 1961 | 2250 |
| Total, palm | 2675 | 3520 | 4250 | 4529 | 2608 | 3423 | 4191 | 4450 |
| Butter, fat content | 680 | 640 | 750 | 845 | 664 | 610 | 626 | 650 |
| Lard | 440 | 460 | 410 | 494 | 415 | 432 | 397 | 450 |
| Total, edible animal | 1120 | 1100 | 1160 | 1339 | 1079 | 1042 | 1023 | 1100 |
| Fish oils | 560 | 550 | 550 | 535 | 551 | 507 | 530 | 510 |
| Whale oil (production) | 38 | 31 | 27 | 25 | 38 | 31 | 27 | 25 |
| Total, edible marine | 598 | 581 | 577 | 560 | 589 | 538 | 557 | 535 |
| Total for food | 11,953 | 12,506 | 14,977 | 14,579 | 10,958 | 11,012 | 13,258 | 13,590 |
| Excess of A. over B. | 995 | 1494 | 1719 | 989 | | | | |
| <u>Primarily non-food</u> | | | | | | | | |
| Linseed and oil | 315 | 280 | 365 | 346 | 293 | 253 | 312 | 320 |
| Castor beans and oil | 270 | 220 | 250 | 201 | 241 | 147 | 233 | 195 |
| Tung oil | 50 | 50 | 55 | 46 | 48 | 45 | 54 | 45 |
| Tallow & Greases (5) | 1570 | 1540 | 1570 | 1558 | 1506 | 1527 | 1535 | 1520 |
| Sperm oil (production) | 100 | 90 | 85 | 80 | 100 | 90 | 85 | 80 |
| Total, non-food | 2305 | 2180 | 2325 | 2231 | 2188 | 2062 | 2219 | 2160 |
| GRAND TOTAL | 14,258 | 14,686 | 17,302 | 16,810 | 13,146 | 13,074 | 15,477 | 15,750 |
| Excess of A. over B. | 1112 | 1612 | 1825 | 1060 | | | | |

TABLE 3 (Cont'd)FOOTNOTES TO WORLD NET EXPORTS OF OILSEEDS, OILS AND FATS^{1/}

1/ October/September, oil basis.

2/ Preliminary.

3/ Estimated.

4/ Including edible and inedible residue oil

5/ Including edible tallow.

6/ Excluding groundnut exports for other than crush purposes.

SOURCE: "Oil World", Hamburg, December 17, 1976.

WORLD NET EXPORTS AND AVAILABILITIES OF OILMEALS
(Thousands of Metric Tons)

| Actual Weight | A. Net Export Availabilities | | | | B. Actual Net Exports | | | |
|---------------------------------|------------------------------|---------|-----------------------|-----------------------|---------------------------------|---------|-----------------------|-----------------------|
| | 1973/74 | 1974/75 | 1975/76 ^{1/} | 1976/77 ^{2/} | 1973/74 | 1974/75 | 1975/76 ^{1/} | 1976/77 ^{2/} |
| (Crop Year - October/September) | | | | | (Crop Year - October/September) | | | |
| Oilseed Meals | | | | | | | | |
| Soybean | 22,900 | 22,300 | 28,770 | 24,838 | 20,382 | 19,240 | 24,624 | 24,400 |
| Cottonseed | 1,210 | 1,190 | 1,080 | 1,222 | 1,114 | 1,105 | 1,048 | 1,170 |
| Groundnut | 1,430 | 1,340 | 1,940 | 1,787 | 1,341 | 1,247 | 1,888 | 1,730 |
| Sunflower | 505 | 470 | 520 | 614 | 476 | 441 | 486 | 580 |
| Rapeseed | 920 | 760 | 1,110 | 959 | 867 | 642 | 779 | 880 |
| Sesame | 170 | 160 | 180 | 190 | 162 | 151 | 168 | 180 |
| Copra | 775 | 1,025 | 1,340 | 1,374 | 759 | 992 | 1,318 | 1,350 |
| Palm Kernel | 500 | 520 | 545 | 575 | 482 | 503 | 527 | 555 |
| Linseed | 685 | 640 | 730 | 730 | 617 | 577 | 629 | 720 |
| Unspecified (c) | 715 | 740 | 785 | 806 | 693 | 718 | 763 | 785 |
| Total | 29,810 | 29,145 | 37,000 | 33,095 | 26,893 | 25,616 | 32,230 | 32,350 |
| Fish Meal | 1,565 | 2,150 | 1,880 | 1,985 | 1,409 | 2,076 | 1,852 | 1,940 |
| Grand Total | 31,375 | 31,295 | 38,880 | 35,080 | 28,302 | 27,692 | 34,082 | 34,290 |
| Excess of A. over B. | 3,073 | 3,603 | 4,798 | 790 | | | | |
| Raw Protein Basis (b) | | | | | | | | |
| Oilseed Meals | | | | | | | | |
| Soybean | 10,305 | 9,923 | 12,946 | 11,177 | 9,172 | 8,562 | 11,081 | 10,980 |
| Cottonseed | 460 | 452 | 410 | 464 | 423 | 420 | 398 | 445 |
| Groundnut | 686 | 643 | 931 | 858 | 644 | 599 | 906 | 830 |
| Sunflowerseed | 187 | 174 | 192 | 227 | 176 | 163 | 180 | 215 |
| Rapeseed | 313 | 258 | 377 | 326 | 295 | 218 | 265 | 299 |
| Sesame | 68 | 64 | 72 | 76 | 65 | 60 | 67 | 72 |
| Copra | 163 | 215 | 281 | 289 | 159 | 208 | 277 | 283 |
| Palm Kernel | 85 | 88 | 93 | 98 | 82 | 86 | 90 | 94 |
| Linseed | 226 | 211 | 241 | 241 | 204 | 190 | 208 | 238 |
| Unspecified (c) | 265 | 274 | 290 | 298 | 256 | 266 | 282 | 290 |
| Total | 12,758 | 12,302 | 15,833 | 14,054 | 11,476 | 10,772 | 13,754 | 13,746 |
| Fish Meal | 1,017 | 1,397 | 1,222 | 1,290 | 916 | 1,349 | 1,204 | 1,261 |
| Grand Total | 13,775 | 13,699 | 17,055 | 15,344 | 12,392 | 12,121 | 14,958 | 15,007 |
| Excess of A. over B. | 1,383 | 1,578 | 2,097 | 337 | | | | |

TABLE 4 (Cont'd)

NOTE: (a) Of countries being net exporters of the respective meal and seed combined.

(b) Average raw protein content of oil cake/expeller/meal. Oilseeds are converted into crude oil and oilmeals, and the latter into raw protein basis, at the following percentage rates:

| | <u>Crude Oil</u> | <u>Oilmeal</u> | <u>Raw Protein Content of Meal</u> |
|---------------------|------------------|----------------|--|
| Soybeans | 18(c) | 79.5(a) | 45(f) |
| Cottonseed | 17.5 | 59(b) | 38 |
| Groundnuts, shelled | 44.5 | 55 | 48 |
| Sunflowerseed | 42(e) | 53(b,e) | 37 |
| Rapeseed | 38.5(d) | 59(d) | 34 |
| Sesameseed | 47 | 52 | 40 |
| Copra | 63.5 | 36 | 21 |
| Palm Kernels | 46.5 | 52.5 | 17 |
| Linseed | 34 | 63 | 33 |
| Castor Beans | 45 | - | - |
| Other Oilseeds | 33 | 60 | 37 |
| Fish Meal | - | - | 65 |

(a) Mostly including hull meal. (b) Partly including hulls.

(c) Up to 30 September 1973: 17.5%. (d) Up to 31 December 1972: 40% for the oil and 57% in the case of meal. (e) Up to 31 December 1971: 44% for the oil and 55% for the meal. (f) Oct./Sept. 74/75: 44.5%

(c) Except castor bean.

1/ Preliminary.

2/ Estimated.

SOURCE: "Oil World", Hamburg, December 17, 1976.

CHAPTER 3

CANADIAN PRODUCTION AND TRADE IN FATS AND OILS

Canadian Oilseeds: Acreage, Yield, Production

The Canadian fats and oils industry includes oilseed production (rapeseed, flaxseed, soybeans and sunflowerseed), crushing of these oilseeds, and processing of the resulting oils and meals. In addition, a variety of oils are imported, along with soybean meal, to help fill domestic demand.

Rapeseed continues to be the leading oilseed produced in Canada, with production in recent years averaging 1.3 million tonnes (Table 5). Approximately 750,000 tonnes are exported each year, either as food aid or as commercial sales. There are now six rapeseed crushing plants in Canada, with a combined daily crushing capacity of 3,550 tonnes. The Canadian domestic requirement for rapeseed oil is approximately 100,000 tonnes per year, and for meal 210,000 tonnes. Therefore, if the crushers were to operate at full capacity, Canada would have available for export approximately 325,000 tonnes of oil and 400,000 tonnes of meal. At a more normal 65% capacity utilization rate, exportable supplies would be 185,000 tonnes of rapeseed oil and 200,000 tonnes of rapeseed meal. The industry is actively seeking export markets for oil and meal.

Rapeseed acreage dropped drastically in 1976 compared to the four previous years because of lower returns per acre as compared to cereal grains. However, yield per acre increased significantly in 1976 due to ideal conditions. For 1977, it is expected that rapeseed acreage will approach 3 million acres because of relatively attractive market conditions compared to cereal grains.

Flaxseed production has stabilized in recent years at approximately 380,000 tonnes. Domestic crushing has declined due to the increased use of linseed substitutes. The crop is now grown primarily for export as seed. There are only two flax processors remaining in Canada, one located in Toronto and the other in Medicine Hat, Alberta.

Flaxseed acreage remained relatively constant in the years 1972 to 1975 but declined in 1976 because of anticipated higher returns from cereal grains (Table 5). In 1977 it is expected that flaxseed acreage will return to more normal levels. Yield per acre in 1976 increased over former years because of ideal growing conditions.

Soybean production is concentrated in southwestern Ontario and averages 325,000 tonnes annually. An equivalent volume of soybeans are imported each year from the U.S. for processing into oil and meal. In addition, at least 200,000 tonnes of soybean meal is imported, along with 20,000 to 30,000 tonnes of soybean oil. There are three soybean processing plants, all in Ontario, with a fourth planned for the Windsor area, to process Canadian and U.S. beans.

Considerable progress is being made in developing new varieties which will extend the area of soybean production in Canada. However, commercial production of important quantities of soybeans from these varieties is still several years away.

Sunflowerseed production is rather minor in Canada and is restricted to the Prairie region. Production has averaged 30,000 tonnes in recent years. There is a good demand for sunflowerseed oil.

Mustardseed is grown mainly in the Prairie region. It is largely an export crop, with very little processing done in Canada. Mustardseed is grown mainly under contract. Annual production of mustardseed is slightly more than 100 million pounds. The main export markets are the EEC, Japan and the U.S.

Canadian Production of Fats & Oils

Canadian production of edible vegetable oils increased by 12 per cent in 1976 as compared to 1975 because of a significant increase in rapeseed oil production (Table 7). It is interesting to note that rapeseed oil production in 1976 outstripped the production of soybean by 38,042 metric tons. This was due mainly to two factors, 1) increased rapeseed crushing capacity and 2) increased domestic and international demand for low erucic acid rapeseed oil.

In contrast to edible vegetable oils, production of animal fats decreased by 12,641 metric tons in 1976 as compared to 1975 because of the 11 per cent reduction in butter production. The production of edible tallow and lard continued their downward trend from 1972.

The decrease in edible marine oil production continues, reflecting declining fish stocks and generally lower activity in the fishing industry.

In the inedible oil sector no statistics are published for linseed oil production because of the secrecy requirements of the Statistics Act. The overall increase was because of a 52 per cent increase in inedible marine oils and an increase of approximately 9 per cent in inedible tallow.

Canadian Imports of Fats & Oils

Canadian imports of edible vegetable oils have been increasing steadily since 1972 (Table 8). These oils include palm coconut, corn, palm kernel, groundnut, cottonseed and olive. In some cases, these imported oils are blended with domestic oils such as rapeseed oil: in other cases, they are refined and sold as identity-preserved oils, such as corn oil and olive oil.

Imports of animal fats and oils in 1976 increased by 2,575 metric tons over 1976 entirely because of lard importations. Imports of marine oils have been steadily declining since 1972.

In the inedible oil sector imports continue their decline which began in 1973.

Canadian Exports of Fats & Oils

Exports of edible vegetable oils, either as oil or in seed form, increased by 19 per cent in 1976 over 1975 (Table 9). Rapeseed and rapeseed oil accounted for the increase. Soybean and soybean oil exports continue their decline due to the loss of the preferential tariff in the U.K.

Animal fats and marine oil exports increased by about 27 per cent in 1976 over 1975.

In the inedible fats and oil sector 1976 exports increased slightly over 1975 but continued their overall declining since 1972.

Canadian Crushings of Vegetable Oilseeds & Production of Oil
and Meal by Crop Year

New crushing capacity for rapeseed came on stream in 1975-76 therefore rapeseed crushing increased by about 22 per cent (71,188 metric tons), resulting in an increase in the production of rapeseed oil and meal. (Table 10).

Soybean crushing also increased in 1975-76 because of a favourable price relationship with rapeseed in the first quarter of the crop year.

The crush of sunflowerseed increased significantly in 1975-76 but still well below the crush of 1971-72 through 1973-74.

CANADIAN OILSEEDS: ACREAGE, YIELD, PRODUCTION

| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>Estimated 1976</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>Estimated 1976</u> |
|---------------|----------------------|-------------|-------------|-------------|---------------------------|---------------------------|------------------|-------------|-------------|---------------------------|
| | (Thousands of Acres) | | | | | (Yield per Acre, Bushels) | | | | |
| Flaxseed | 1,321 | 1,450 | 1,450 | 1,400 | 875 | 13.3 | 13.4 | 9.5 | 12.5 | 13.4 |
| Rapeseed | 3,270 | 3,150 | 3,160 | 4,020 | 1,950 | 17.5 | 16.9 | 16.2 | 17.9 | 20.7 |
| Soybeans | 405 | 470 | 415 | 390 | 370 | 34.0 | (Pounds) 31.0 | 24.8 | 34.6 | 28.9 |
| Mustardseed | 180 | 335 | 350 | 163 | 128 | 842 | 782 | 743 | 678 | 901.6 |
| Sunflowerseed | 217 | 129 | 21 | 62 | 50 | 783 | 705 | 867 | 1,065 | 1,060 |

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Production
(Thousands of Bushels)

Oil Equivalent
(Metric Tons)

| | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| Flaxseed | 17,617 | 19,400 | 13,800 | 17,500 | 11,700 | 158,759 | 174,634 | 124,091 | 157,361 | 105,209 |
| Rapeseed | 57,300 | 53,200 | 51,300 | 76,000 | 41,000 | 520,275 | 482,627 | 465,390 | 654,097 | 371,960 |
| Soybeans | 13,770 | 14,570 | 10,290 | 13,478 | 9,250 | 66,225 | 70,307 | 49,569 | 64,926 | 44,551 |

(Metric Tons)

(Metric Tons)

| | | | | | | | | | | |
|---------------|--------|---------|---------|--------|--------|--------|-------|--------|-------|---|
| Mustardseed | 68,720 | 118,842 | 117,935 | 50,122 | 52,300 | - | - | - | - | - |
| Sunflowerseed | 77,111 | 41,232 | 8,255 | 29,937 | 24,000 | 16,329 | 3,302 | 11,975 | 9,600 | |

Oil Conversion Factors: Flaxseed35.4%

Rapeseed40.0%

Soybeans17.7%

Sunflowerseed40.0%

MustardseedOil Content Varies with Variety

TABLE 6

CANADIAN OILSEED PRODUCTION BY PROVINCE

| | A R E A | | | YIELD PER ACRE | | | P R O D U C T I O N | | |
|----------------------|----------------------|-------|------|----------------|-------|-------|------------------------|--------|--------|
| | 1974 | 1975 | 1976 | 1974 | 1975 | 1976 | 1974 | 1975 | 1976 |
| | (Thousands of acres) | | | (Bushels) | | | (Thousands of Bushels) | | |
| <u>FLAXSEED</u> | | | | | | | | | |
| Manitoba | 700 | 750 | 550 | 9.4 | 11.2 | 11.5 | 6,600 | 8,400 | 6,300 |
| Saskatchewan | 550 | 450 | 225 | 8.5 | 13.1 | 16.9 | 4,700 | 5,900 | 3,800 |
| Alberta | 200 | 200 | 100 | 12.5 | 16.0 | 16.0 | 2,500 | 3,200 | 1,600 |
| | | | | | | | | | |
| <u>RAPESEED</u> | | | | (Bushels) | | | (Thousands of Bushels) | | |
| Manitoba | 500 | 750 | 250 | 17.0 | 16.7 | 18.0 | 8,500 | 12,500 | 4,500 |
| Saskatchewan | 1,450 | 1,800 | 850 | 16.0 | 18.3 | 22.8 | 23,200 | 33,000 | 19,400 |
| Alberta | 1,150 | 1,700 | 850 | 16.3 | 17.9 | 19.4 | 18,700 | 30,500 | 16,500 |
| British Columbia | 60 | 70 | 35 | 15.0 | 15.7 | 17.1 | 900 | 1,100 | 600 |
| | | | | | | | | | |
| <u>SOYBEANS</u> | | | | (Bushels) | | | (Thousands of Bushels) | | |
| Ontario | 415 | 390 | 370 | 24.8 | 34.6 | 25.0 | 10,290 | 13,478 | 9,250 |
| | | | | | | | | | |
| <u>SUNFLOWERSEED</u> | | | | (Pounds) | | | (Metric Tons) | | |
| Manitoba | 21 | 62 | 50 | 867 | 1,065 | 1,060 | 8,255 | 29,945 | 24,047 |
| | | | | | | | | | |
| <u>MUSTARD SEED</u> | | | | (Pounds) | | | (Metric Tons) | | |
| Manitoba | 40 | 23 | 18 | 750 | 630 | 800 | 13,608 | 6,579 | 6,352 |
| Saskatchewan | 200 | 76 | 75 | 750 | 658 | 893 | 68,039 | 22,686 | 30,399 |
| Alberta | 110 | 64 | 35 | 727 | 719 | 971 | 36,287 | 20,871 | 15,426 |

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 7

CANADIAN PRODUCTION OF FATS AND OILS

(Metric Tons)

| | <u>1 9 7 2</u> | <u>1 9 7 3</u> | <u>1 9 7 4</u> | <u>1 9 7 5</u> | <u>1 9 7 6</u> |
|--------------------------------------|----------------|----------------|------------------|------------------|------------------------|
| <u>PRIMARILY EDIBLE^{1/}</u> | | | | | |
| <u>VEGETABLE OILS</u> | | | | | |
| Soybean Oil ^{2/} | 103,352 | 91,421 | 122,417 | 113,106 | 117,328 |
| Rapeseed Oil ^{3/} | 115,212 | 144,580 | 112,873 | 124,773 | 155,370 |
| Sunflowerseed Oil ^{4/} | <u>13,033</u> | <u>13,233</u> | <u>7,913</u> | <u>3,172</u> | <u>x^{11/}</u> |
| TOTAL ^{5/} | <u>231,597</u> | <u>249,234</u> | <u>243,203</u> | <u>241,051</u> | <u>272,698</u> |
| <u>ANIMAL FATS</u> | | | | | |
| Edible Tallow | 19,860 | 18,476 | 16,883 | 17,000 | 16,438 |
| Lard | 55,117 | 50,415 | 50,216 | 43,240 | 42,795 |
| Butter (as butter oil) | <u>110,355</u> | <u>80,096</u> | <u>88,258</u> | <u>106,425</u> | <u>94,791</u> |
| TOTAL | <u>185,332</u> | <u>148,987</u> | <u>155,357</u> | <u>166,665</u> | <u>154,024</u> |
| <u>MARINE OILS</u> | | | | | |
| Herring | 12,834 | 11,732 | 7,122 | 5,044 | 3,553 |
| Seal | 1,505 | - | - | - | - |
| Whale ^{7/} | 2,739 | 283 | - | - | - |
| Other ^{8/} | <u>-</u> | <u>-</u> | <u>428</u> | <u>44</u> | <u>975</u> |
| TOTAL ^{9/} | <u>17,078</u> | <u>12,015</u> | <u>7,550</u> | <u>5,088</u> | <u>4,528</u> |
| <u>TOTAL EDIBLE OIL</u> | | | | | |
| <u>PRODUCTION</u> | <u>434,007</u> | <u>410,236</u> | <u>406,110</u> | <u>412,804</u> | <u>431,250</u> |
| <u>PRIMARILY INEDIBLE</u> | | | | | |
| Linseed Oil ^{10/} | 27,912 | 13,572 | x ^{11/} | x ^{11/} | x ^{11/} |
| Inedible Tallow | 183,693 | 186,003 | 182,727 | 182,491 | 199,183 |
| Marine Oils ^{12/} | <u>3,439</u> | <u>925</u> | <u>2,869</u> | <u>4,471</u> | <u>9,238</u> |
| <u>TOTAL INEDIBLE OILS</u> | | | | | |
| <u>PRODUCTION</u> | <u>215,044</u> | <u>200,500</u> | <u>185,596</u> | <u>186,962</u> | <u>208,421</u> |
| <u>TOTAL EDIBLE AND INEDIBLE</u> | | | | | |
| <u>FATS AND OILS PRODUCTION</u> | | | | | |
| (Excluding Linseed Oil | <u>649,051</u> | <u>610,736</u> | <u>591,706</u> | <u>599,766</u> | <u>539,671</u> |
| in 1974, 1975 & 1976 | | | | | |
| & Sunflowerseed Oil | | | | | |
| in 1976) | | | | | |

TABLE 7 (Cont'd)

- 1/ Production data for corn oil and cocoa butter are confidential and have not been included.
- 2/ Soybean oil output of Canadian crushing mills.
- 3/ Rapeseed oil output of Canadian crushing mills. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content of carlot survey samples of rapeseed as follows:
- | | |
|---------|-----------------------------|
| 1971/72 | 43.9% (dry matter basis) |
| 1972/73 | 40.2% (8.5% moisture basis) |
| 1973/74 | 39.9% (8.5% moisture basis) |
| 1974/75 | 40.9% (8.5% moisture basis) |
| 1975/76 | 41.4% (8.5% moisture basis) |
- 4/ Sunflowerseed oil output of Canadian crushing mills.
- 5/ Includes only crude vegetable oils produced in Canadian mills.
- 6/ Butter oil represents the oil equivalent of creamery butter, farm butter and whey butter production, using 81% as the conversion factor.
- 7/ Whale oil production includes small amounts of other unspecified marine oils.
- 8/ Other oil production includes seal oils.
- 9/ Small quantities of salmon oil (West Coast) and of redfish oil (East Coast) of edible grade cannot be identified statistically and are included under "Marine Oils" in the inedible category below.
- 10/ Linseed oil output of Canadian crushing plants. The Grain Research Laboratory of the Canadian Grain Commission has reported the average oil content (dry matter basis) of carlot survey samples of flaxseed as follows:
- | | |
|---------|-------|
| 1971/72 | 42.2% |
| 1972/73 | 42.4% |
| 1973/74 | 42.4% |
| 1974/75 | 43.1% |
| 1975/76 | 43.1% |
- 11/ Confidential - to meet secrecy requirements of Statistics Act.
- 12/ Includes liver oils, groundfish oil, salmon oil and small amounts of unspecified oils.

SOURCE: Statistics Canada, Catalogue Nos. 22-006, 24-002, 32-002, 32-020.

TABLE 8

CANADIAN IMPORTS OF FATS AND OILS

(Metric Tons)

PRIMARILY EDIBLE

| Vegetable Oils | 1972 | 1973 | 1974 | 1975 | 1976 |
|--|---------|---------|---------|---------|---------|
| Soybeans (Oil Equiv.) | 54,440 | 41,027 | 69,169 | 68,227 | 70,371 |
| Soybean Oil | 17,012 | 18,971 | 33,614 | 20,881 | 31,205 |
| Cottonseed Oil | 10,191 | 8,402 | 11,333 | 11,289 | 5,200 |
| Corn Oil | 8,179 | 6,604 | 10,358 | 10,172 | 16,418 |
| Peanut Oil | 7,399 | 7,382 | 5,519 | 6,848 | 6,734 |
| Coconut Oil | 32,295 | 21,299 | 21,956 | 25,816 | 29,647 |
| Palm Oil | 30,861 | 19,580 | 16,199 | 41,283 | 55,001 |
| Palm Kernel Oil | 5,749 | 5,944 | 4,376 | 5,093 | 10,351 |
| Olive Oil | 2,903 | 2,088 | 2,408 | 1,987 | 5,096 |
| Cocoa Butter | 6,300 | 6,595 | 5,378 | 4,362 | 5,008 |
| Sunflowerseed Oil | 1,926 | 77 | 186 | 170 | 271 |
| Vegetable Oils & Fats | 1,764 | 4,504 | 5,973 | 2,965 | 3,156 |
| Vegetable Cooking Fats & Packaged Salad Oils | 545 | 1,031 | 1,461 | 693 | 144 |
| Margarine & Shortening Oils | 5,133 | 1,448 | 11,983 | 15,546 | 16,322 |
| Total ^{1/} | 184,702 | 144,956 | 199,918 | 215,332 | 254,924 |
| <u>Animal Fats</u> | | | | | |
| Lard | 9,783 | 7,160 | 17,680 | 12,118 | 19,246 |
| Butter ^{2/} | 3,247 | 23,013 | 19,754 | 4,565 | 12 |
| Total | 13,031 | 30,173 | 37,435 | 16,683 | 19,258 |
| <u>Marine Oils</u> | | | | | |
| Fish & Marine Oil | 1,651 | 1,239 | 849 | 879 | 299 |
| Total | 1,651 | 1,239 | 849 | 879 | 299 |
| TOTAL EDIBLE OILS & FATS | 199,385 | 176,369 | 238,202 | 232,894 | 274,481 |

PRIMARILY INEDIBLE

| | | | | | |
|---|---------|---------|---------|---------|---------|
| Castor Oil | 2,170 | 2,788 | 1,850 | 1,909 | 1,313 |
| Tung Oil | 1,024 | 1,242 | 425 | 692 | 734 |
| Inedible Tallow ^{3/} | 8,406 | 2,779 | 3,509 | 1,668 | 832 |
| Animal Oil & Fats | 1,148 | 475 | 808 | 487 | 652 |
| Animal Grease ^{4/} | 1,148 | 2,517 | 2,612 | 4,154 | 1,700 |
| TOTAL INEDIBLE OILS & FATS | 13,897 | 9,802 | 9,205 | 8,910 | 5,231 |
| TOTAL EDIBLE & INEDIBLE FATS & OILS IMPORTS | 213,283 | 186,172 | 247,408 | 241,804 | 281,025 |

TABLE 8 (Cont'd)

FOOTNOTES TO
CANADIAN IMPORTS OF FATS AND OILS

- 1/ Vegetable oil total includes the oil equivalent of the imported soybeans. This is justified because the soybeans are crushed in Canada for oil and meal production.
- 2/ Butter imports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ This category includes Animal Grease, NES and Wool Grease and Lanolin.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 9

CANADIAN EXPORTS OF FATS AND OILS

(Metric Tons)

PRIMARYLY EDIBLE

| <u>Vegetable Oils</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--|-------------|-------------|-------------|-------------|-------------|
| Soybeans (Oil Equiv.) | 7,334 | 4,771 | 5,034 | 1,541 | 4,363 |
| Soybean Oil | 31,305 | 3,360 | 8,148 | 2,074 | -- |
| Rapeseed (Oil Equiv.) | 430,917 | 477,474 | 246,394 | 270,479 | 309,949 |
| Rapeseed Oil | -- | 34,805 | 27,669 | 19,811 | 42,501 |
| Sunflowerseed (Oil Equiv.) | 9,707 | 12,459 | 8,467 | 3,186 | 3,800 |
| Margarine & Shortening | 236 | 147 | 352 | 268 | 706 |
| Vegetable Oil & Fats | 9,104 | 13,252 | 763 | 944 | 6,974 |
| Total ^{1/} | 488,604 | 546,269 | 296,828 | 298,303 | 368,293 |
| <u>Animal Fats</u> | | | | | |
| Butter (Oil Equiv.) ^{2/} | 8 | 2 | 3 | 23 | 2,861 |
| Total | 8 | 2 | 3 | 23 | 2,861 |
| <u>Marine Oils</u> | | | | | |
| Herring Oil | 3,422 | 2,833 | 5,524 | 2,277 | 5,315 |
| Whale Oil | 2,197 | 1,259 | -- | -- | 5 |
| Total | 5,620 | 4,093 | 5,524 | 2,277 | 5,320 |
| <u>TOTAL EDIBLE FATS & OILS</u> | | | | | |
| (Including Oil Equiv. of Oilseeds) | 494,293 | 550,362 | 302,356 | 300,603 | 376,474 |
| <u>PRIMARYLY INEDIBLE</u> | | | | | |
| Flaxseed (Oil Equiv.) | 210,469 | 153,355 | 124,267 | 86,709 | 87,297 |
| Linseed Oil | 16,123 | 6,080 | 592 | 3,562 | 5,108 |
| Inedible Tallow ^{3/} | 104,130 | 81,926 | 98,740 | 97,871 | 109,884 |
| Marine Oils ^{4/} | 1,672 | 2,683 | 2,338 | 2,615 | 4,789 |
| Animal Fats and Oils | 3,293 | 5,116 | 2,718 | 1,463 | 3,282 |
| <u>TOTAL INEDIBLE FATS & OILS</u> | 335,688 | 249,162 | 228,656 | 192,210 | 210,370 |
| <u>TOTAL EDIBLE & INEDIBLE FATS AND OILS</u> | 829,921 | 799,525 | 531,012 | 492,823 | 586,844 |

TABLE 9 (Cont'd)FOOTNOTES TOCANADIAN EXPORTS OF FATS AND OILS

- 1/ The margarine portion cannot be separated, consequently it was not converted to fat equivalent. Oil equivalent of oilseeds are included in all totals. It is justified to include the oil equivalents of exported oilseeds into the total of fats and oil exports, since it represents a form of oil export and does not involve a duplication of data. Starting in 1973 rapeseed oil exports are reported separately and are no longer included under "Vegetable Oils and Fats".
- 2/ Butter exports have been converted to oil equivalent, using the factor of 81%.
- 3/ This class includes both edible and inedible tallow. The proportions are not known.
- 4/ Marine oil exports listed under "Inedible Oils" include sun-rotted cod liver oil, a non-specified group of fish and marine oil, and fish liver and visceral oils. While most of these oils can be assumed to be of an inedible grade, a small quantity of edible oil may have been included.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 10

CANADIAN CRUSHINGS OF VEGETABLE OILSEEDS AND
PRODUCTION OF OIL AND MEAL BY CROP YEAR
 (Metric Tons)

| <u>CRUSHINGS</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|------------------------|------------------|------------------|------------------|-------------------------------|-------------------------------|
| Canaxseed | 78,744 | 66,890 | 19,346 | x ¹ / ₂ | x ¹ / ₂ |
| Canpeaseed | 272,158 | 353,178 | 334,414 | 275,973 | 347,161 |
| Can soybeans | 634,128 | 612,552 | 642,310 | 635,110 | 722,988 |
| Canflowerseed | 31,298 | 31,717 | 28,212 | 7,134 | 20,029 |
| Total | <u>1,016,328</u> | <u>1,064,337</u> | <u>1,024,282</u> | <u>918,217</u> | <u>1,090,178</u> |
| <u>MEAL PRODUCTION</u> | | | | | |
| Canaxseed | 26,762 | 22,762 | 6,601 | x ¹ / ₂ | x ¹ / ₂ |
| Canpeaseed | 106,141 | 133,966 | 125,631 | 108,483 | 141,698 |
| Can soybeans | 109,316 | 99,125 | 109,169 | 108,344 | 122,694 |
| Canflowerseed | 13,154 | 13,009 | 11,234 | 2,671 | 8,328 |
| Total | <u>255,375</u> | <u>268,862</u> | <u>252,635</u> | <u>219,498</u> | <u>272,720</u> |
| <u>MEAL PRODUCTION</u> | | | | | |
| Canaxseed | 49,895 | 42,037 | 11,932 | x ¹ / ₂ | x ¹ / ₂ |
| Canpeaseed | 162,841 | 204,169 | 193,932 | 157,763 | 197,376 |
| Can soybeans | 493,967 | 482,973 | 503,368 | 499,183 | 569,467 |
| Canflowerseed | 11,793 | 11,811 | 10,558 | 2,553 | 7,266 |
| Total | <u>718,497</u> | <u>740,990</u> | <u>719,790</u> | <u>659,499</u> | <u>774,109</u> |

Confidential - to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 4

THE CANADIAN RAPESEED SITUATION

Canadian Rapeseed Production

Rapeseed production has declined since the record crop of 1971-72 of 95 million bushels. There are various reasons given for the decline such as increased competition from cereal grains, weakening of prices and a projected decrease in demand accompanied by an anticipated surplus of soy and other protein meals.

Reduced plantings of rapeseed and U.S. soy associated with an increased demand for protein and oil has reduced Canadian and U.S. inventories sharply. The drought in Europe in 1976 made serious inroads on European production. A marked downward trend in cereal prices has led to increased planting intentions for 1977. It is anticipated that Canadian production of rapeseed in 1977 will be close to 3,000,000 acres.

Canadian Exports of Rapeseed

Rapeseed exports increased in 1976 by about 15% over 1975 but were still below the exports in 1972 and 1973 (Table 12). Japan is by far Canada's largest market accounting for over 80% of our rapeseed exports. Exports to both India and Bangladesh were reduced because these countries are now taking rapeseed oil under CIDA's bilateral food aid program rather than taking rapeseed as in the past.

Canadian Exports of Rapeseed Oil

New crushing capacity came on stream in late 1975 and larger quantities of oil became available for international markets. Another new plant came on stream in early 1977, making total rapeseed crushing capacity 3,550 tonnes per day.

Due to increased world demand for rapeseed and oil, exports of both products are anticipated to increase in 1977 over 1976 levels.

Canadian Exports of Rapeseed Oilcake & Meal

Exports of rapeseed meal increased dramatically in 1976 over 1975 and this trend is expected to continue as new varieties of rapeseed with low glucosinolates, lower fibre and higher protein content come into commercial production in Canada (Table 14).

Canadian Rapeseed Prices

Rapeseed is traded on the Winnipeg Commodity Exchange (Table 17). Prices were fairly stable from 1971-72 through 1972-73 until they began their upward swing in January, 1974, reaching their peak of \$9.55½ per bushel in October 1974 and then trended downwards through to July, 1976.

TABLE 11

CANADIAN SUPPLY AND DISPOSITION OF RAPESEED
RAPESEED OIL AND RAPESEED MEAL
 (Crop Year)

| <u>RAPESEED</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|----------------------|------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Bushels) | | | | |
| Stocks, Starting | 11,029 | 43,139 | 20,678 | 12,386 | 17,633 |
| Production | 95,000 | 57,300 | 53,200 | 51,300 | 77,100 |
| Exports | 42,603 | 54,059 | 39,183 | 26,146 | 30,116 |
| Domestic Crashings | 12,050 | 15,572 | 14,745 | 12,168 | 15,307 |
| | | | | | |
| <u>RAPESEED OIL</u> | (Metric Tons) | | | | |
| Exports | - | 24,983 | 34,488 | 19,240 | 32,633 |
| Domestic Production | 106,141 | 133,966 | 125,631 | 108,483 | 141,698 |
| | | | | | |
| <u>RAPESEED MEAL</u> | (Metric Tons) | | | | |
| Exports | - | 19,452 | 47,580 | 10,672 | 27,984 |
| Domestic Production | 162,841 | 204,169 | 193,932 | 157,763 | 197,376 |

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 12

CANADIAN EXPORTS OF RAPESEED

(Metric Tons)

| DESTINATION | 1972 | 1973 | 1974 | 1975 | 1976 |
|--------------------|------------------|----------------------|----------------------|----------------------|----------------------|
| Algeria | 1,950 | -- | -- | -- | -- |
| Australia | 10,995 | 20,613 | 14,739 | -- | -- |
| Bangladesh | -- | 81,048 ^{2/} | 18,012 ^{3/} | 47,688 ^{4/} | 25,662 ^{8/} |
| Belgium-Luxembourg | 1,516 | 2,092 | 358 | 508 | -- |
| Brazil | -- | -- | 12 | -- | -- |
| Denmark | -- | 4,536 | -- | -- | -- |
| Finland | -- | -- | -- | -- | 103 |
| France | 143,369 | 17,118 | -- | -- | -- |
| Germany, West | 28,075 | 87,970 | 23,418 | 5,651 | 15,058 |
| Hungary | 1 [/] | -- | -- | -- | -- |
| India | 51,242 | 51,302 ^{5/} | 4,521 ^{6/} | 14,142 ^{7/} | -- |
| Italy | 67,997 | 86,121 | 896 | 2,008 | 2,956 |
| Japan | 588,648 | 710,987 | 493,947 | 579,385 | 687,076 |
| Korea, South | -- | 24,474 | -- | -- | 7,268 |
| Lebanon | 3,789 | -- | -- | -- | -- |
| Mexico | 4 | 23,502 | 38,731 | -- | -- |
| Morocco | 15,201 | -- | -- | -- | -- |
| Netherlands | 86,058 | 61,895 | 20,680 | 18,426 | 16,682 |
| Norway | 3,242 | -- | -- | -- | -- |
| Pakistan | 52,051 | -- | -- | -- | -- |
| Peru | -- | -- | 2 | -- | -- |
| Romania | -- | -- | 1 | -- | -- |
| Spain | 61 | 1,004 | -- | 919 | 4 |
| Sweden | 20 | 13 | 1 [/] | 56 | 211 |
| Switzerland | -- | -- | -- | 3,953 | -- |
| Taiwan | -- | 18,024 | -- | -- | -- |
| United Kingdom | 18,562 | 3,048 | 999 | 3,324 | 13,358 |
| United States | 191 | 2 | 104 | 123 | 6,491 |
| Venezuela | -- | -- | -- | 9 | -- |
| Total | <u>1,077,791</u> | <u>1,193,666</u> | <u>615,975</u> | <u>676,199</u> | <u>774,873</u> |

^{1/} Less than one metric ton.^{2/} CIDA reports 27,140 metric tons shipped under bilateral food aid in the crop year 1972/73.^{3/} CIDA reports 30,162 metric tons shipped under bilateral food aid in the crop year 1973/74.^{4/} CIDA reports 9,432 metric tons shipped under bilateral food aid in the crop year 1974/75.^{5/} CIDA reports 51,302 metric tons shipped under bilateral food aid in the crop year 1972/73.^{6/} CIDA reports 4,521 metric tons shipped under bilateral food aid in the crop year 1973/74.^{7/} CIDA reports 23,582 metric tons shipped under bilateral food aid in the crop year 1974/75.^{8/} CIDA reports 16,787 metric tons shipped under bilateral food aid in the crop year 1975/76

TABLE 13

CANADIAN EXPORTS OF RAPESEED OIL
(Metric Tons)

| <u>DESTINATION</u> | <u>1972^{1/}</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|-----------------------------|--------------------------|-------------------|----------------------|---------------------|----------------------|
| Australia | | 395 | 538 | 122 | - |
| Bangladesh | | 295 ^{2/} | - | - | 5,542 ^{5/} |
| Chile | | 11,159 | - | - | - |
| Egypt | | - | - | - | 745 |
| France | | 1 | - | - | - |
| Hong Kong | | 2,304 | - | 590 | 2,069 |
| India | | 5,050 | 13,237 ^{3/} | 9,438 ^{4/} | 23,248 ^{5/} |
| Japan | | 13,695 | 3,381 | 3,019 | 8,481 |
| Labanon | | - | - | - | 290 |
| Netherlands | | 13 | - | 3,202 | - |
| United Kingdom | | 1,176 | 1,240 | 2,476 | - |
| United States | | 711 | 8,268 | 963 | 2,124 |
| Zambia | | - | 1,002 | - | - |
| TOTAL | | <u>34,805</u> | <u>27,669</u> | <u>19,811</u> | <u>42,501</u> |
| TOTAL VALUE (\$'000) | | <u>10,223</u> | <u>14,133</u> | <u>15,683</u> | <u>23,081</u> |

1/ Not Published prior to 1973.

2/ CIDA reports 4,493 metric tons shipped under bilateral food aid in the crop year 1972/73.

3/ CIDA reports 13,694 metric tons shipped under bilateral food aid in the crop year 1973/74.

4/ CIDA reports 7,364 metric tons shipped under bilateral food aid in the crop year 1974/75.

5/ CIDA reports 17,455 metric tons shipped under bilateral food aid in the crop year 1975/76.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 14

CANADIAN EXPORTS OF RAPESEED OILCAKE AND MEAL
(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> ^{1/} | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------------------|---------------|---------------|---------------|---------------|
| Barbados | | 9 | 269 | - | - |
| Chile | | 5,499 | - | - | - |
| Cuba | | 20 | - | - | - |
| Germany, West | | 1,451 | 16 | 1,965 | 4,686 |
| Jamaica | | - | 3 | - | - |
| Japan | | 1 | - | - | 121 |
| Korea, South | | 7,597 | - | - | - |
| Mexico | | 3,039 | 5,811 | - | - |
| Netherlands | | 6,702 | 10,738 | 5,756 | 26,941 |
| Philippines | | 3,710 | 609 | - | |
| United Kingdom | | 11,616 | 7,620 | 12,392 | 16,127 |
| United States | | <u>1,608</u> | <u>5,840</u> | <u>552</u> | <u>3,696</u> |
| Total | | <u>41,257</u> | <u>30,911</u> | <u>20,666</u> | <u>51,573</u> |
| Total Value (\$'000) | | <u>6,198</u> | <u>3,218</u> | <u>2,115</u> | <u>6,089</u> |

^{1/} Not published prior to 1973.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 15

QUALITY DATA FOR WESTERN CANADIAN RAPESEED,
SURVEY SAMPLES OF 1974 AND 1975 CROPS

| | 1975 SURVEY | | | | 1976 SURVEY | | | |
|---------------------------|-------------------------------|---------------------------|-----------------------------------|-------------------|-------------------------------|---------------------------|-----------------------------------|-------------------|
| | Oil ¹ / Content | Erucic Acid Content | Protein ² / Content | No. of Samples | Oil ¹ / Content | Erucic Acid Content | Protein ² / Content | No. of Samples |
| WESTERN CANADA | | | | | | | | |
| No. 1 CRS | 41.3 | 3.2 | 36.6 | 445 | 41.3 | 2.3 | 36.3 | 421 |
| No. 2 CRS | 40.6 | 1.6 | 40.4 | 46 | 40.6 | 0.9 | 39.3 | 22 |
| All Grades | 41.3 | 3.1 | 36.9 | 493 | 41.3 | 2.3 | 36.4 | 443 |
| ALL GRADES BY PROVINCE | | | | | | | | |
| Manitoba | 39.7 | 1.6 | 39.9 | 80 | 41.8 | 2.1 | 38.6 | 61 |
| Saskatchewan | 41.6 | 2.5 | 36.9 | 229 | 41.9 | 1.5 | 36.6 | 205 |
| Alberta | 41.5 | 4.4 | 35.7 | 184 | 40.5 | 3.2 | 35.4 | 177 |

1/ Oil content of seed is reported on an 8.5% moisture basis.

2/ Protein content is reported on the oil-free meal and an 8.5% moisture basis.

TABLE 16

SUMMERFALLOW AND STUBBLE CULTIVATION OF RAPESEED

| <u>Seeded Area</u> | <u>Summer-fallow</u> | <u>Stubble</u> | <u>Total</u> |
|--------------------|----------------------|----------------|--------------|
| | ('000 Acres) | | |
| 1972 | 2,525 | 745 | 3,270 |
| 1973 | 2,410 | 740 | 3,150 |
| 1974 | 2,346 | 754 | 3,100 |
| 1975 | 3,170 | 1,080 | 4,250 |
| 1976 | 1,531 | 419 | 1,950 |

| <u>Distribution</u> | (Per Cent) | | |
|---------------------|------------|----|-----|
| 1972 | 77 | 23 | 100 |
| 1973 | 77 | 23 | 100 |
| 1974 | 76 | 24 | 100 |
| 1975 | 75 | 25 | 100 |
| 1976 | 79 | 21 | 100 |

| <u>Average Yield Per Seeded Acre</u> | (Bushels) | | |
|--|-----------|------|------|
| 1972 | 18.3 | 14.8 | 17.5 |
| 1973 | 17.9 | 13.5 | 16.9 |
| 1974 | 17.2 | 13.4 | 16.3 |
| 1975 | 19.0 | 14.7 | 17.9 |
| 1976 | 22.2 | 15.3 | 20.7 |

| <u>Production</u> | (Million Bushels) | | |
|-------------------|-------------------|-------|-------|
| 1972 | 46.27 | 11.03 | 57.30 |
| 1973 | 43.22 | 9.98 | 53.20 |
| 1974 | 40.30 | 10.10 | 50.40 |
| 1975 | 60.10 | 15.90 | 76.00 |
| 1976 | 34.00 | 6.40 | 40.40 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 17

CANADIAN RAPESEED PRICES ^{1/}
(Crop Year)

| <u>MONTH</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|----------------|--------------------------------|----------------|----------------|----------------|----------------|
| | (Cents and Eighths per Bushel) | | | | |
| August | 273/7 | 244/7 | 649/7 | 821/2 | 666/2 |
| September | 248/2 | 253/3 | 536/4 | 851/4 | 595/3 |
| October | 255/4 | 256/1 | 493/7 | 955/5 | 533/1 |
| November | 250/2 | 260/5 | 482/5 | 902 | 495/3 |
| December | 238/3 | 295/5 | 566/6 | 812/3 | 441 |
| January | 228 | 325/6 | 655/1 | 731/7 | 451/6 |
| February | 231/4 | 374/4 | 706/1 | 639/3 | 467/7 |
| March | 247/2 | 361 | 677/7 | 620/2 | 465/4 |
| April | 269/5 | 376/2 | 608/7 | 643/3 | 455/7 |
| May | 248 | 399/1 | 702/1 | 568/5 | 479/3 |
| June | 234/7 | 537/7 | 738/6 | 545/3 | 540/5 |
| July | <u>239/3</u> | <u>682/4</u> | <u>796</u> | <u>587/4</u> | <u>580/4</u> |
| Yearly Average | <u>247/1</u> | <u>364</u> | <u>634/4</u> | <u>723/2</u> | <u>514/3</u> |

1/ Winnipeg Grain Exchange No. 1 Canadian Rapeseed, basis in store Thunder Bay.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 5

THE CANADIAN SOYBEAN SITUATION

Canadian Supply and Disposition

Soybean production in Canada has remained fairly stable for the past few years because of the limited production area forcing soybeans to compete with other cash crops that are produced in the same southwestern Ontario area (Table 18).

The Japanese are interested in specific Canadian soybean varieties as food products. This type of interest is encouraging Canadian soybean growers to examine their international markets with respect to widening them and to reduce their requirement to compete with U.S. soy.

Domestic crushings have remained relatively stable over the past five years.

Canadian Imports of Soybeans & Soybean Oil

Canadian imports of soybeans, almost all from the United States, continue to be about equal to Canadian production (Table 19). Soybean oil continues to be the dominant oil of choice used by Canadian manufacturers of margarine, salad oil and shortening. This is due to its favourable price relationship with rapeseed oil as well as the traditional buying habits of the manufacturer and consumer. Soy oil continues to make inroads in the industrial area once almost wholly a domain of linseed oil, e.g. paint dryer.

Imports of soybean oil all from the United States, increased by 10.3 thousand metric tons in 1976 over 1975 probably due to the favourable price relationship which existed for about half of 1976 with rapeseed oil.

Imports of Soybean Meal

Soybean meal continues to dominate the protein meal market in Canada and the volume of imports varies according to Canadian production, price relationship with rapeseed meal and the level of livestock and poultry feeding in Canada (Table 21).

Canadian Exports of Soybeans

The United Kingdom was Canada's largest market for soybeans but with their entry into the EEC resulting in the loss of the Commonwealth preferential tariff, exports of Canadian soybeans have dropped off drastically since 1972 (Table 22). Singapore, Japan and Hong Kong have become our major markets. They import Canadian soybeans for direct human consumption as opposed to beans for use as oil and meal.

Canadian Exports of Soybean Oil and Meal

With the loss of the United Kingdom market, Canada's exports of soybean oil are nil (Table 23).

Although exports of soybean meal showed a slight increase in 1976 over 1975 this appears to be only a minor aberration in the downward trend.

Canadian Soybean Prices

Canadian prices of soybeans are closely tied to the Chicago commodity market (Table 24).

TABLE 18

CANADIAN SUPPLY AND DISPOSITION OF SOYBEANS,
SOYBEAN OIL AND SOYBEAN MEAL
 (Crop Year)

| <u>SOYBEANS</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|------------------------|------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Bushels) | | | | |
| Production | 10,276 | 13,770 | 14,570 | 11,040 | 13,478 |
| Imports | 14,774 | 10,973 | 12,506 | 12,650 | 13,633 |
| Exports | 1,366 | 1,062 | 1,061 | 349 | 819 |
| Domestic Crushings | 23,314 | 22,507 | 23,601 | 23,336 | 26,565 |
| <u>SOYBEAN OIL</u> | (Metric Tons) | | | | |
| Imports | 19,519 | 16,459 | 33,395 | 19,557 | 30,810 |
| Exports | 46,128 | 12,547 | 4,942 | 5,587 | 1,043 |
| Domestic Production | 109,316 | 99,125 | 109,169 | 108,344 | 122,694 |
| <u>SOYBEAN MEAL</u> | (Metric Tons) | | | | |
| Imports | 207,649 | 219,872 | 232,974 | 271,149 | 343,814 |
| Exports | 123,208 | 118,066 | 94,087 | 83,527 | 69,335 |
| Domestic Production | 493,967 | 482,973 | 503,368 | 499,183 | 569,467 |

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 19

CANADIAN IMPORTS OF SOYBEAN AND SOYBEAN OILSOYBEANS

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Germany, West | - | - | 2 | 1 | - |
| Hong Kong | 4 | 12 | <u>1/</u> | 3 | 17 |
| Japan | - | 2 | 2 | 4 | - |
| Peoples Republic of China | 5 | 20 | 20 | 13 | - |
| United Kingdom | - | <u>1/</u> | - | - | - |
| United States | <u>308,470</u> | <u>231,749</u> | <u>390,756</u> | <u>385,444</u> | <u>397,560</u> |
| Total | <u>340,043</u> | <u>231,784</u> | <u>390,781</u> | <u>385,465</u> | <u>397,577</u> |
| Total Value (\$'000) | <u>39,108</u> | <u>50,360</u> | <u>90,505</u> | <u>86,210</u> | <u>81,136</u> |

SOYBEAN OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| France | <u>1/</u> | - | <u>1/</u> | 1 | - |
| United States | <u>17,012</u> | <u>18,971</u> | <u>33,614</u> | <u>20,881</u> | <u>31,205</u> |
| Total | <u>17,012</u> | <u>18,971</u> | <u>33,614</u> | <u>20,882</u> | <u>31,205</u> |
| Total Value (\$'000) | <u>4,708</u> | <u>8,264</u> | <u>24,829</u> | <u>14,394</u> | <u>14,223</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 20

IMPORTS OF SOYBEAN OIL BY PROVINCE

| | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | | 1 9 7 6 | |
|------------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Nova Scotia | -- | -- | 39 | 17 | -- | -- | 1 | 1/ | 10 | 6 |
| New Brunswick | 2,314 | 674 | 948 | 393 | 1,366 | 1,033 | 1,614 | 1,267 | 1,036 | 545 |
| Quebec | 149 | 50 | 873 | 446 | 5,897 | 3,871 | 1,490 | 822 | 2,056 | 788 |
| Ontario | 12,062 | 3,254 | 11,775 | 5,114 | 16,913 | 13,143 | 11,681 | 8,196 | 17,767 | 8,396 |
| Manitoba | 69 | 14 | 2,338 | 993 | 4,458 | 3,184 | 2,752 | 1,572 | 4,646 | 1,865 |
| Saskatchewan | -- | -- | -- | -- | 95 | 73 | 250 | 155 | 225 | 100 |
| Alberta | -- | -- | 162 | 72 | 970 | 599 | 343 | 236 | 1,931 | 734 |
| British Columbia | 2,415 | 714 | 2,830 | 1,225 | 3,912 | 2,922 | 2,747 | 2,142 | 3,532 | 1,783 |
| Total | 17,011 | 4,706 | 18,969 | 8,260 | 33,613 | 24,825 | 20,881 | 14,394 | 31,205 | 14,222 |

1/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data.

TABLE 21

IMPORTS OF SOYBEAN MEAL BY PROVINCE

| | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | | 1 9 7 6 | |
|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Newfoundland | -- | -- | -- | -- | -- | -- | 129 | 18 | -- | -- |
| Nova Scotia | 1,536 | 185 | 3,084 | 477 | 133 | 29 | 3,288 | 521 | 19 | 3 |
| New Brunswick | -- | -- | 36 | 4 | 72 | 13 | 129 | 18 | 5,569 | 1,369 |
| Quebec | 50,512 | 6,232 | 36,719 | 5,312 | 65,673 | 10,399 | 91,146 | 20,062 | 118,447 | 25,368 |
| Ontario | 54,839 | 7,247 | 47,879 | 14,048 | 57,704 | 10,897 | 49,312 | 8,574 | 57,881 | 12,891 |
| Manitoba | 47,689 | 5,188 | 46,432 | 11,245 | 77,965 | 14,627 | 63,070 | 9,975 | 69,789 | 12,250 |
| Saskatchewan | 6,029 | 662 | 16,335 | 4,383 | 19,672 | 3,975 | 17,808 | 3,134 | 16,740 | 3,227 |
| Alberta | 28,414 | 3,067 | 21,794 | 5,644 | 27,025 | 5,108 | 37,904 | 6,273 | 42,521 | 7,120 |
| B.C. | 33,122 | 3,743 | 19,060 | 5,016 | 29,192 | 5,865 | 31,554 | 5,622 | 37,896 | 7,810 |
| Total | 222,143 | 26,254 | 191,341 | 46,129 | 277,438 | 50,853 | 294,343 | 54,209 | 348,865 | 70,042 |

SOURCE: Statistics Canada, Unpublished Data

TABLE 22CANADIAN EXPORTS OF SOYBEANS

(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|-------------------------------|---------------|---------------|---------------|--------------|---------------|
| Belgium-Luxembourg | - | - | 2,000 | - | - |
| Bulgaria | - | 137 | - | - | - |
| France | - | - | 63 | 490 | 73 |
| Germany, West | - | 1 | 561 | 225 | 10 |
| Hong Kong | - | 18 | 957 | 2,192 | 5,111 |
| Jamaica | 2 | 2 | 3 | 4 | - |
| Japan | - | 5,103 | 3,830 | 3,041 | 6,825 |
| Malaysia | - | - | - | - | 209 |
| Netherlands | 162 | 145 | 18 | - | - |
| Philippines | - | - | - | - | 125 |
| Singapore | - | - | - | 1,020 | 9,667 |
| Spain | - | - | - | 213 | - |
| Sweden | 676 | 839 | 1,356 | - | - |
| Switzerland | 72 | 72 | 91 | - | - |
| United Kingdom | 40,532 | 20,358 | 4,162 | 30 | 80 |
| United States | 24 | 274 | 22 | 46 | 351 |
| U.S.S.R. | 5 | - | - | - | - |
| Yugoslavia | - | - | - | 160 | - |
| Other Countries ^{1/} | - | - | - | - | 2,199 |
| Total | <u>41,478</u> | <u>26,955</u> | <u>13,066</u> | <u>8,710</u> | <u>24,653</u> |
| Total Value (\$'000) | <u>5,665</u> | <u>6,151</u> | <u>3,451</u> | <u>2,812</u> | <u>6,100</u> |

^{1/} To protect confidentiality under the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 23

CANADIAN EXPORTS OF SOYBEAN OIL AND MEAL
(Metric Tons)

SOYBEAN OIL

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|--------------|--------------|--------------|-------------|
| Bahamas | 8 | 4 | - | - | - |
| Germany, West | - | - | - | 14 | - |
| Jamaica | - | - | - | 4 | - |
| Leeward-Windward Islands | - | - | 1 | 1 | - |
| United Kingdom | 31,296 | 3,310 | 7,778 | 1,965 | - |
| United States | <u>1/</u> | <u>45</u> | <u>368</u> | <u>92</u> | <u>-</u> |
| Total | <u>31,304</u> | <u>3,359</u> | <u>8,148</u> | <u>2,076</u> | <u>-</u> |
| Total Value (\$'000) | <u>8,480</u> | <u>1,233</u> | <u>5,663</u> | <u>1,391</u> | <u>-</u> |

1/ Less than one metric ton.

SOYBEAN MEAL

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------|----------------|----------------|---------------|-------------|
| Belgium-Luxembourg | - | 6,679 | - | - | - |
| Germany, West | - | - | - | - | - |
| Guyana | 6 | - | - | - | - |
| Ireland | - | - | 3,789 | - | 2,0 |
| Trinidad-Tobago | - | - | - | 1 | - |
| United Kingdom | 86,675 | 94,906 | 101,984 | 57,269 | 59,6 |
| United States | <u>1,872</u> | <u>9,923</u> | <u>9,420</u> | <u>1,723</u> | <u>9</u> |
| Total | <u>88,554</u> | <u>111,509</u> | <u>115,195</u> | <u>58,993</u> | <u>62,7</u> |
| Total Value (\$'000) | <u>9,405</u> | <u>18,851</u> | <u>17,547</u> | <u>9,435</u> | <u>11,2</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 24

CANADIAN SOYBEAN PRICES^{1/}
(Crop Year)

| <u>M O N T H</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|------------------|--|----------------|----------------|----------------|----------------|
| |(Cents and Eighths per Bushel)..... | | | | |
| August | 326/1 | 340/7 | 1040 | 716/2 | 596/5 |
| September | 304/7 | 325/6 | 605 | 726/6 | 545/5 |
| October | 308/3 | 310/5 | 557 | 811/4 | 477/3 |
| November | 299/2 | 342/2 | 553/6 | 723/6 | 435 |
| December | 299/6 | 391/7 | 583/7 | 678/2 | 420/6 |
| January | 297/2 | 428 | 606/2 | 590/6 | 436/3 |
| February | 306/6 | 567/6 | 644/1 | 506/2 | 441/7 |
| March | 325/7 | 617/5 | 610/2 | 504/2 | 438/1 |
| April | 338/2 | 646/4 | 534/2 | 527/3 | 437/6 |
| May | 335/5 | 882/4 | 517/1 | 481/8 | 481/2 |
| June | 330/1 | 1095/7 | 504/6 | 488/2 | 582/4 |
| July | <u>334/3</u> | <u>929</u> | <u>642/1</u> | <u>542/7</u> | <u>611/4</u> |
| Yearly Average | <u>316/7</u> | <u>573/2</u> | <u>616/4</u> | <u>608/2</u> | <u>492/1</u> |

^{1/} Buying prices, carlots, f.o.b. Chatham, No. 2 and better.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 6

THE CANADIAN SUNFLOWER SITUATION

Canadian Sunflower Production

In the crop years 1975-76 and 1976-77 Manitoba was the only province to produce sunflowers (Table 25). Intensive research is now underway for the development of new varieties suitable for growing in Saskatchewan and Alberta. Test plots of new varieties were grown successfully in 1976-77 in Saskatchewan and Alberta, and it is expected that in 1977-78 commercial production will extend into these two provinces.

The domestic and export markets could absorb much larger quantities of sunflowerseed.

Canadian Exports & Imports of Sunflowerseed & Oil

Exports of sunflowerseed increased in 1976 over 1975 but were still well below exports in 1972 and 1973 (Table 26).

Imports of sunflowerseed oil have also declined from a high of 1,925 metric tons in 1972 to 271 metric tons in 1976 (Table 27).

TABLE 25

CANADIAN SUNFLOWERSEED: ACREAGE, YIELD AND PRODUCTION
(Crop Year)

| | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> | <u>1976/77</u> |
|---------------|----------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 190.0 | 125.0 | 30.0 | 62.0 | 50.0 |
| Saskatchewan | 23.0 | 2.5 | - | - | - |
| Alberta | 4.0 | 1.5 | - | - | - |
| Canada, Total | 217.0 | 129.0 | 30.0 | 62.0 | 50.0 |
| | (Yield Per Acre, Pounds) | | | | |
| Manitoba | 800 | 700 | 867 | 1,065 | 1,060 |
| Saskatchewan | 652 | 800 | - | - | - |
| Alberta | 750 | 933 | - | - | - |
| Canada, Total | 783 | 705 | 867 | 1,065 | 1,060 |
| | (Production - Metric Tons) | | | | |
| Manitoba | 68,946 | 39,689 | 8,255 | 29,945 | 24,047 |
| Saskatchewan | 6,804 | 907 | - | - | - |
| Alberta | 1,360 | 635 | - | - | - |
| Canada, Total | 77,111 | 41,232 | 8,255 | 29,937 | 24,047 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 26

CANADIAN EXPORTS OF SUNFLOWERSEED
(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------|---------------|---------------|--------------|--------------|
| Australia | - | <u>1/</u> | - | - | 17 |
| Bangladesh | - | <u>1/</u> | 2 | - | 2 |
| Czechoslovakia | - | - | 6,877 | - | 1,604 |
| Denmark | - | - | - | - | 18 |
| France | 2,499 | 20,357 | - | - | - |
| Germany, West | 4,339 | 69 | 7,244 | 3,825 | 3,590 |
| Italy | - | 8,255 | - | - | - |
| Japan | 5,558 | - | - | - | - |
| Korea, South | - | 23 | - | - | - |
| Netherlands | 10,221 | 887 | 5,703 | - | 3,001 |
| New Zealand | 2 | 2 | <u>1/</u> | 2 | <u>1/</u> |
| Portugal | - | - | 36 | 2,701 | - |
| Spain | - | 161 | - | 526 | - |
| Sweden | 46 | 37 | <u>1/</u> | 2 | 4 |
| United Kingdom | 45 | 22 | 31 | 34 | 25 |
| United States | 1,526 | 1,326 | 1,250 | 874 | 1,238 |
| U.S.S.R. | - | - | <u>1/</u> | - | - |
| Total | <u>24,238</u> | <u>31,143</u> | <u>21,169</u> | <u>7,965</u> | <u>9,501</u> |
| Total Value (\$'000) | <u>3,660</u> | <u>6,143</u> | <u>7,334</u> | <u>2,623</u> | <u>3,258</u> |

1/ Less than one metric ton.

Source: Statistics Canada, Catalogue No. 65-004.

TABLE 27

CANADIAN IMPORTS OF SUNFLOWERSEED OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|-------------|-------------|-------------|-------------|
| Austria | 7 | 1 | 3 | 5 | -- |
| France | -- | <u>1/</u> | 2 | 1 | -- |
| Germany, West | <u>1/</u> | -- | -- | -- | -- |
| Netherlands | 219 | -- | -- | -- | -- |
| United States | 1,698 | 74 | 178 | 160 | 271 |
| U.S.S.R. | <u>--</u> | <u>--</u> | <u>1</u> | <u>4</u> | <u>--</u> |
| TOTAL | <u>1,925</u> | <u>77</u> | <u>186</u> | <u>170</u> | <u>271</u> |
| TOTAL VALUE (\$'000) | <u>617</u> | <u>27</u> | <u>181</u> | <u>158</u> | <u>147</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 28

IMPORTS OF SUNFLOWERSEED OIL BY PROVINCE

| | 1 9 7 2 | | 1 9 7 3 | | 1 9 7 4 | | 1 9 7 5 | | 1 9 7 6 | |
|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|----------------|------------------|
| | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ | Metric Tons | '000 of \$ |
| Nova Scotia | - | - | - | - | - | - | - | - | 1 | 2/ |
| Quebec | 5 | 3 | 2 | 1 | 7 | 4 | 8 | 9 | 2 | 2/ |
| Ontario | 1,920 | 616 | 74 | 25 | 178 | 175 | 50 | 43 | 38 | 22 |
| Alberta | - | - | - | - | - | - | 111 | 105 | 213 | 115 |
| British Columbia | - | - | - | - | 1/ | 1/ | 1/ | 2/ | 16 | 6 |
| Total | 1,925 | 619 | 77 | 26 | 185 | 179 | 170 | 157 | 270 | 143 |

1/ Less than one metric ton.

2/ Less than \$1,000.

SOURCE: Statistics Canada, Unpublished Data.

CHAPTER 7

THE CANADIAN MUSTARDSEED SITUATION

Canadian Mustardseed Production

Mustardseed production increased slightly in 1976-77 over 1975-76 because of an ideal growing season which resulted in a significant increase in yield per acre (Table 29). Average is expected to increase in 1977-78 as returns per acre to the producer should be considerably higher than for cereal grains.

Canadian Exports of Mustardseed

Most of the production of mustardseed in Canada is grown under contract to exporting companies who receive, clean and export the seed. The United States, the Netherlands, Japan and West Germany continue to be Canada's major markets for mustardseed (Table 30).

Canadian Imports of Ground Mustard

Very little mustardseed is processed in Canada, therefore, we must import to meet domestic requirements (Table 31).

TABLE 29

CANADIAN MUSTARDSEED: ACREAGE, YIELD AND PRODUCTION
(Crop Year)

| | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> | <u>1976/77</u> |
|---------------|--------------------------|----------------|----------------|----------------|----------------|
| | (Thousands of Acres) | | | | |
| Manitoba | 15 | 40 | 40 | 23 | 18 |
| Saskatchewan | 140 | 225 | 200 | 76 | 75 |
| Alberta | 25 | 70 | 110 | 64 | 35 |
| Canada, Total | 180 | 335 | 350 | 163 | 128 |
| | (Yield, Pounds Per Acre) | | | | |
| Manitoba | 833 | 800 | 750 | 630 | 800 |
| Saskatchewan | 821 | 800 | 750 | 658 | 893 |
| Alberta | 960 | 714 | 727 | 719 | 971 |
| Canada, Total | 842 | 782 | 743 | 678 | 902 |
| | (Metric Tons) | | | | |
| Manitoba | 5,670 | 14,515 | 13,608 | 6,578 | 6,533 |
| Saskatchewan | 52,163 | 81,647 | 68,039 | 22,679 | 30,399 |
| Alberta | 10,886 | 22,679 | 36,287 | 20,865 | 15,246 |
| Canada, Total | 68,720 | 118,842 | 117,935 | 50,121 | 52,359 |

SOURCE: Statistics Canada, Catalogue No. 22-002.

TABLE 30

CANADIAN EXPORTS OF MUSTARDSEED

(Metric Tons)

| DESTINATION | 1972 | 1973 | 1974 | 1975 | 1976 |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| Argentina | 99 | - | - | - | - |
| Australia | - | - | 65 | - | - |
| Belgium-Luxembourg | 9,818 | 8,035 | 6,292 | 114 | 574 |
| Brazil | - | <u>1</u> / | 93 | - | - |
| Chile | - | - | 4 | - | - |
| Costa Rica | - | - | 4 | 15 | 17 |
| Czechoslovakia | - | - | - | 108 | 35 |
| El Salvador | - | 4 | - | - | - |
| France | 5,382 | - | 129 | 290 | 181 |
| Germany, West | 8,652 | 11,459 | 2,165 | 3,483 | 2,613 |
| Guatemala | - | - | 1 | - | - |
| Israel | - | 25 | - | 3 | - |
| Japan | 6,264 | 6,149 | 7,565 | 9,058 | 7,517 |
| Leeward-Windward Is. | <u>1</u> / | - | - | - | - |
| Mexico | 151 | 177 | 281 | 272 | 108 |
| Netherlands | 10,839 | 10,791 | 18,048 | 11,057 | 9,114 |
| New Zealand | - | - | 1 | - | - |
| Philippines | - | - | - | 4 | 4 |
| Spain | - | - | - | 17 | 40 |
| Sweden | - | - | 54 | 54 | 54 |
| Switzerland | 549 | 684 | 94 | 430 | - |
| United Kingdom | 507 | 36 | 637 | 1,253 | 85 |
| United States | 43,278 | 34,052 | 33,460 | 31,659 | 38,526 |
| U.S.S.R. | - | 24 | - | - | - |
| Venezuela | - | 1 | 22 | 24 | - |
| Total | <u>85,544</u> | <u>71,441</u> | <u>68,925</u> | <u>57,841</u> | <u>58,871</u> |
| Total Value (\$'000) | <u>9,458</u> | <u>13,812</u> | <u>21,171</u> | <u>22,939</u> | <u>20,946</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 31CANADIAN IMPORTS OF GROUND MUSTARD

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| France | 5 | - | - | 4 | - |
| Germany, West | 4 | 4 | <u>1/</u> | 2 | - |
| Hong Kong | 1 | 1 | <u>1/</u> | <u>1/</u> | - |
| India | - | - | - | <u>1/</u> | - |
| Japan | - | 1 | <u>1/</u> | <u>1/</u> | - |
| People's Republic of China | - | - | 3 | - | - |
| Taiwan | - | - | - | 2 | - |
| United Kingdom | 207 | 271 | 306 | 317 | 169 |
| United States | 63 | 41 | 56 | 65 | 99 |
| Total | <u>280</u> | <u>319</u> | <u>368</u> | <u>393</u> | <u>269</u> |
| Total Value (\$'000) | <u>314</u> | <u>407</u> | <u>424</u> | <u>522</u> | <u>358</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

CHAPTER 8OTHER OILSEED CAKE AND MEAL

1976 Canadian imports of miscellaneous oilseed cake and meal fell to the lowest level in the past four years (Table 32). Cottonseed meal imports were less than 10% of those in the previous two years and less than .5% of those of 1973. Oilseed cake and meal (NES) imports were down 25% from the previous year and down almost 50% from 1974 but were slightly above the 1973 import level and about five times above that of 1972.

1976 Canadian export of oilseed cakes and meals (NES) was of minor proportions at 1,150 metric tons as compared to the early 1970's (Table 33). However, the average price received was \$100 per metric ton as against the \$60 per metric ton received in 1972 and 1973 when large quantities were exported. The United States was the only buyer of these products in 1976.

TABLE 32

CANADIAN IMPORTS OF MISCELLANEOUS OILSEED CAKE AND MEALS
(Metric Tons)

| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|------------------------------|-------------|--------------|--------------|--------------|--------------|
| Cottonseed Meal | 95 | 1,228 | 307 | 317 | 27 |
| Oilseed Cake & Meal (NES) | <u>352</u> | <u>1,411</u> | <u>3,303</u> | <u>2,317</u> | <u>1,732</u> |
| TOTAL | <u>447</u> | <u>2,639</u> | <u>3,610</u> | <u>2,634</u> | <u>1,759</u> |
| TOTAL VALUE (\$'000) | <u>48</u> | <u>506</u> | <u>598</u> | <u>390</u> | <u>206</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 33CANADIAN EXPORTS OF OILSEED CAKES AND MEALS (NES)

(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------|----------------|-------------|-------------|--------------|
| Barbados | 10 | -- | -- | -- | -- |
| Belgium-Luxembourg | -- | 54 | -- | -- | -- |
| Bermuda | -- | 29 | -- | -- | -- |
| Cuba | 7 | -- | -- | -- | -- |
| France | -- | 1,887 | -- | -- | -- |
| Germany, West | -- | 36 | -- | -- | -- |
| Guyana | 9 | -- | -- | -- | -- |
| Italy | 2 | 9,353 | -- | -- | -- |
| Japan | -- | 70,725 | -- | -- | -- |
| Korea, South | 2 | -- | -- | -- | -- |
| Netherlands-Antilles | 3,397 | 9,334 | -- | -- | -- |
| Norway | -- | 18 | -- | -- | -- |
| Philippines | 994 | -- | -- | -- | -- |
| St. Pierre-Miquelon | -- | -- | -- | 4 | -- |
| United Kingdom | 33,798 | 547 | -- | -- | -- |
| United States | <u>10,482</u> | <u>20,590</u> | <u>--</u> | <u>--</u> | <u>1,150</u> |
| TOTAL | <u>48,704</u> | <u>112,575</u> | <u>--</u> | <u>4</u> | <u>1,150</u> |
| TOTAL VALUE (\$'000) | <u>2,883</u> | <u>6,706</u> | <u>--</u> | <u>1</u> | <u>114</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

CHAPTER 9

DEODORIZED FATS AND OILS

Deodorized fats and oils for purposes of this publication deal with the Canadian production of margarine, shortening and salad oils, the Canadian imports of vegetable oils and fats (NES), cocoa butter, coconut oil, corn oil, cottonseed oil, olive oil, palm oil, palm kernel oil and peanut oil and the Canadian exports of other vegetable oils and fats (NES).

The use of vegetable oils in the production of Canadian margarine and shortening and salad oils continues to increase. In 1976 these oils made up 90% of the total production compared to 86% in 1975 (Table 34). Marine oil usage dropped from 2% in 1975 to 1% in 1976 while animal fats dropped from 12% to 9%. Margarine production utilized 28% of the deodorized fats and oils in 1976 as it did in 1975. Shortening oil production accounted for 46% of the total usage as against 48% in 1975 and salad oil increased its use of these fats and oils by 2% from 24% in 1975 to 26% in 1976.

Imports of vegetable oils and fats (NES) remained at lower levels in 1976 as compared to 1973 and 1974 but slightly above the 1975 level (Table 35). These imports have been coming from a wide number of countries but the quantities received from Denmark, Greece, and the United Kingdom have decreased substantially while the volume from the United States increased by over 50% from 1975 to 1976.

Canadian imports of cocoa butter increased by almost 25% in 1976 over 1975 (Table 36). Brazil doubled its shipments from 426 metric tons in 1975 to 875 metric tons in 1976. No imports were received this past year from West Germany or Mexico but Singapore became a nominal supplier. The average price per metric ton remained near the previous year's level (\$3,296.19 in 1975 and \$3,337.46 in 1976).

The importation of coconut oil has been at steadily increasing amounts since 1973 and nearly back to the level of 1972 (Table 37). The Phillipines and Sri Lanka remain Canada's major suppliers while amounts coming from Australia and Malaysia

have been substantially reduced. Prices paid in 1976 averaged \$365.00 per metric ton as compared with an average cost of \$465.00 per metric ton in 1975.

Corn oil imports for 1976 increased approximately 60% over those of 1975 and the United States became the only supplier (Table 38). The average cost per metric ton in 1976 was \$530.00 compared to \$720.00 in 1975 and \$970.00 in 1974.

In the case of cottonseed oil imports, again United States was the only supplier. However, the amounts imported declined in 1976 over 1975 by the amount of increase in corn oil imports in the two years (Table 39). The value per metric ton was \$550.00 in 1976 compared to \$675.00 in 1975 and \$725.00 in 1974.

Canadian imports of olive oil took a dramatic turn upward in 1976 increasing over 250% from the amounts imported in 1975 and almost as much as the amounts imported in the past three years combined (Table 40). Although Spain is our major supplier, the United States became a large supplier for the first time in the past five years. Italy and Greece have been regular exporters of this product to Canada but the amounts shipped in 1976 were down from those exported in 1975. Chile became a Canadian supplier of a nominal amount for the first time in five years. The average cost per metric ton dropped substantially in 1976 at \$910.00 compared to \$2100.00 in 1975 and \$1910.00 in 1974.

Palm oil imports continued to provide the largest amounts of imported deodorized oil for the second year in a row (Table 41). Malaysia and Indonesia are the major suppliers while the Ivory Coast became a non-supplier and Singapore only exported one metric ton to Canada in 1976. The Philippines became a supplier of a nominal amount (250 metric tons) in 1976. Prices paid per metric ton eased a fair amount in 1976 to \$350.00 contrasted to \$457.00 in 1975 and \$660.00 in 1974.

Imports of palm kernel oil increased by 100% in 1976 over 1975 (Table 41). Although Malaysia has been and continues to be our major supplier, the United States and Indonesia shipped substantial amounts to Canada this past year. The average price paid per metric ton was \$305.00 in 1976 compared to \$505.00 in 1975 and \$1020.00 in 1974.

Peanut oil imports in 1976 remained at the same approximate level as in 1975 (Table 43). Brazil became our

leading supplier for the first time. Nicaragua was a first time supplier in the past five years while no supplies were received from Senegal and less than one metric ton from the United Kingdom. Costs per metric ton averaged \$630.00 in 1976 which is down from the \$870.00 paid in 1975 and the \$910.00 paid in 1974.

Canadian exports of other vegetable oils and fats (NES) jumped from less than 1000 metric tons in 1975 to almost 7000 metric tons in 1976 (Table 44). Saudi Arabia and West Germany became large buyers of these products. Colombia purchased from us for the first time in the past five years while the United States took over a 100% greater quantity in 1976 over 1975. Prices received averaged \$275.00 per metric ton which was down considerably from the \$540.00 received in 1975 and the \$670.00 in 1974.

TABLE 34

CANADIAN PRODUCTION OF DEODORIZED FATS AND OILS

(Metric Tons)

| | 1 9 7 5 | | | | 1 9 7 6 | | | |
|-----------------------|------------------|-------------------|--------------|---------|------------------|-------------------|--------------|---------|
| | Margarine Oil | Shortening Oil | Salad Oil | Total | Margarine Oil | Shortening Oil | Salad Oil | Total |
| VEGETABLE OILS | | | | | | | | |
| Coconut | 374 | 16,184 | 116 | 16,674 | 318 | 17,959 | 14 | 18,291 |
| Corn | 5,908 | 87 | X | X | 7,161 | X | X | 17,057 |
| Cottonseed | 249 | 4,326 | 380 | 4,955 | 2 | 2,668 | 729 | 3,399 |
| Palm | 6,241 | 25,554 | 1,476 | 33,271 | 6,877 | 30,353 | 1,140 | 38,370 |
| Palm Kernel | 10 | 5,039 | 91 | 5,140 | X | X | - | 6,154 |
| Peanut | - | 2,480 | X | X | - | X | X | 6,481 |
| Rapeseed | 33,709 | 22,043 | 38,816 | 94,568 | 31,844 | 21,451 | 47,228 | 100,523 |
| Soybean | 39,695 | 46,189 | 19,446 | 105,330 | 49,950 | 49,817 | 21,223 | 120,990 |
| Sunflowerseed | 45 | 241 | X | X | X | X | X | 11,163 |
| Other Vegetable | 567 | 296 | 168 | 1,031 | X | X | - | 1,488 |
| TOTAL VEGETABLE OILS | 86,798 | 122,439 | 80,314 | 289,551 | 97,064 | 132,712 | 94,140 | 323,916 |
| MARINE OILS | | | | | | | | |
| Herring | 3,385 | 3,127 | - | 6,512 | 1,412 | 1,739 | - | 3,151 |
| Seal | 231 | - | - | 231 | - | - | - | - |
| Whale | - | - | - | - | - | - | - | - |
| Other Marine | 45 | 225 | - | 270 | 123 | 170 | - | 293 |
| TOTAL MARINE OILS | 3,661 | 3,352 | - | 7,013 | 1,535 | 1,909 | - | 3,444 |
| ANIMAL FATS | | | | | | | | |
| Lard | 1,763 | 13,049 | - | 14,812 | 1,684 | 8,151 | 35 | 9,870 |
| Oleo, All Types | 4 | 669 | - | 673 | - | 1,297 | - | 1,297 |
| Tallow, Edible | 1,031 | 23,820 | - | 24,851 | 240 | 20,489 | 163 | 20,892 |
| TOTAL ANIMAL FATS | 2,798 | 37,538 | - | 40,336 | 1,924 | 29,937 | 198 | 32,059 |
| TOTAL ALL FATS & OILS | 93,257 | 163,329 | 80,314 | 336,900 | 100,523 | 164,558 | 94,338 | 359,419 |

TABLE 34 (Cont'd)

X Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 32-006

TABLE 35

CANADIAN IMPORTS OF VEGETABLE OILS AND FATS (NES)
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|
| Austria | 5 | 6 | 1 | 10 | 1 |
| Belgium-Luxembourg | -- | -- | 18 | -- | -- |
| Brazil | 9 | 35 | 18 | 14 | 212 |
| Denmark | 163 | 10 | 140 | 146 | 23 |
| France | 51 | 2 | 2 | 1 | 13 |
| Germany, West | 1 | 16 | 72 | 6 | 6 |
| Greece | -- | -- | 185 | 545 | <u>1/</u> |
| Hong Kong | 27 | 22 | 30 | 31 | 29 |
| India | -- | -- | <u>1/</u> | <u>1/</u> | 6 |
| Ireland | -- | -- | -- | -- | -- |
| Israel | 1 | 6 | -- | -- | -- |
| Japan | 22 | 28 | 59 | 33 | 47 |
| Lebanon | 2 | 1 | --- | <u>1/</u> | -- |
| Netherlands | -- | -- | -- | 64 | 2 |
| New Zealand | -- | -- | -- | -- | 10 |
| Malaysia | <u>1/</u> | -- | -- | -- | -- |
| Peoples' Republic of China | <u>1/</u> | 1 | 5 | 7 | 14 |
| Singapore | -- | -- | <u>1/</u> | -- | 2 |
| Switzerland | 26 | 1 | 1 | 3 | 3 |
| Syria | -- | -- | 1 | -- | -- |
| Taiwan | -- | -- | <u>1/</u> | <u>1/</u> | <u>1/</u> |
| United Kingdom | 18 | 289 | 1,994 | 572 | 331 |
| United States | 1,428 | 4,077 | 3,441 | 1,521 | 2,452 |
| Yugoslavia | <u>1</u> | <u>1</u> | -- | <u>6</u> | <u>1/</u> |
| TOTAL | <u>1,760</u> | <u>4,501</u> | <u>5,973</u> | <u>2,965</u> | <u>3,156</u> |
| TOTAL VALUE (\$'000) | <u>859</u> | <u>1,597</u> | <u>7,447</u> | <u>3,129</u> | <u>3,069</u> |

1/ Less than one metric ton.

TABLE 36

CANADIAN IMPORTS OF COCOA BUTTER

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|---------------|---------------|---------------|---------------|
| Australia | - | - | 1,019 | - | - |
| Brazil | 250 | 351 | 1,677 | 426 | 875 |
| Cuba | 172 | 99 | - | 60 | 92 |
| Dominican Republic | - | 145 | 33 | - | - |
| Ecuador | - | - | 246 | - | - |
| Germany, West | - | 99 | 283 | 37 | - |
| Ghana | 2,631 | 1,198 | 1,016 | - | - |
| Guinea | - | - | 25 | - | - |
| Ireland | 34 | 42 | - | - | - |
| Ivory Coast | 762 | 99 | 977 | 236 | 299 |
| Jamaica | 132 | 50 | 44 | - | - |
| Leeward-Windward Is. | - | - | 30 | - | - |
| Mexico | 56 | 22 | - | 184 | - |
| Netherlands | 1,773 | 2,073 | 98 | 1,521 | 1,612 |
| Nigeria | 93 | 841 | 3,173 | - | - |
| Singapore | - | - | - | - | 26 |
| Trinidad-Tobago | - | - | 10 | - | - |
| United Kingdom | 153 | 1,274 | 211 | 1,283 | 1,409 |
| United States | 238 | 295 | 4,241 | 613 | 693 |
| Total | <u>6,298</u> | <u>6,593</u> | <u>13,175</u> | <u>4,362</u> | <u>5,008</u> |
| Total Value (\$'000) | <u>7,807</u> | <u>12,925</u> | <u>20,048</u> | <u>14,378</u> | <u>16,714</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 37

CANADIAN IMPORTS OF COCONUT OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Australia | - | 661 | 993 | 2,218 | <u>1/</u> |
| British Oceania | - | 46 | - | - | - |
| Fiji | 318 | - | 1,721 | <u>1/</u> | - |
| Finland | - | - | - | 68 | - |
| Germany, West | <u>1/</u> | - | 1 | 1 | - |
| Hong Kong | - | - | - | - | <u>1/</u> |
| Indonesia | - | - | - | - | 173 |
| Jamaica | 6 | <u>1/</u> | - | - | 2 |
| Leeward-Windward Is. | - | 1 | - | - | - |
| Malaysia | 597 | 6,744 | 7,907 | 3,902 | 1,730 |
| Netherlands | 513 | 1,322 | - | - | - |
| Norway | - | - | <u>1/</u> | - | - |
| Philippines | 10,856 | 8,490 | 67 | 7,137 | 18,623 |
| Puerto Rico | - | 3 | 18 | - | - |
| Singapore | 42 | 4 | 5 | - | - |
| Sri Lanka | 14,248 | 1,728 | 8,096 | 10,540 | 8,190 |
| United Kingdom | 1,236 | 370 | 719 | 346 | 174 |
| United States | <u>4,474</u> | <u>1,922</u> | <u>2,423</u> | <u>1,600</u> | <u>752</u> |
| Total | <u>32,294</u> | <u>21,297</u> | <u>21,956</u> | <u>25,816</u> | <u>29,647</u> |
| Total Value (\$'000) | <u>6,311</u> | <u>7,643</u> | <u>20,934</u> | <u>11,995</u> | <u>10,847</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 38CANADIAN IMPORTS OF CORN OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|---------------|---------------|---------------|
| France | <u>1/</u> | - | <u>1/</u> | <u>1/</u> | - |
| Germany, West | - | 309 | - | - | - |
| United Kingdom | 934 | 1,067 | 1,605 | - | - |
| United States | <u>7,244</u> | <u>5,226</u> | <u>8,752</u> | <u>10,172</u> | <u>16,418</u> |
| Total | <u>8,178</u> | <u>6,603</u> | <u>10,358</u> | <u>10,173</u> | <u>16,418</u> |
| Total Value (\$'000) | <u>3,183</u> | <u>3,291</u> | <u>9,010</u> | <u>7,311</u> | <u>8,705</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 39CANADIAN IMPORTS OF COTTONSEED OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|--------------|---------------|---------------|--------------|
| United Kingdom | - | - | <u>1/</u> | - | - |
| United States | <u>10,190</u> | <u>8,402</u> | <u>11,333</u> | <u>11,289</u> | <u>5,200</u> |
| Total | <u>10,190</u> | <u>8,402</u> | <u>11,334</u> | <u>11,289</u> | <u>5,200</u> |
| Total Value (\$'000) | <u>2,868</u> | <u>3,102</u> | <u>8,214</u> | <u>7,647</u> | <u>2,863</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 40

CANADIAN IMPORTS OF OLIVE OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Chile | - | - | - | - | 25 |
| France | 45 | 30 | 38 | 30 | 28 |
| Greece | 386 | 130 | 105 | 417 | 162 |
| Italy | 925 | 698 | 773 | 611 | 525 |
| Morocco | 20 | - | - | - | - |
| Portugal | 276 | 273 | 241 | 150 | 106 |
| Spain | 1,137 | 899 | 1,170 | 709 | 2,132 |
| Sweden | - | - | 8 | - | - |
| Switzerland | - | - | - | 17 | - |
| Tunisia | - | - | - | 22 | - |
| Turkey | - | - | 1 | 1 | - |
| United States | <u>111</u> | <u>54</u> | <u>66</u> | <u>29</u> | <u>2,117</u> |
| Total | <u>2,902</u> | <u>2,086</u> | <u>2,408</u> | <u>1,986</u> | <u>5,096</u> |
| Total Value (\$'000) | <u>2,854</u> | <u>2,795</u> | <u>4,597</u> | <u>4,161</u> | <u>4,646</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 41CANADIAN IMPORTS OF PALM OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Germany, West | - | 3 | 1 | - | - |
| India | - | - | - | - | <u>1/</u> |
| Indonesia | - | - | 2,011 | 13,085 | 20,592 |
| Ivory Coast | - | - | - | 1,385 | - |
| Malaysia | 29,043 | 19,558 | 10,503 | 23,675 | 31,800 |
| Philippines | - | - | - | - | 250 |
| Singapore | - | - | 1,020 | 509 | 1 |
| United Kingdom | 1,528 | <u>1/</u> | 3 | <u>1/</u> | 2 |
| United States | <u>289</u> | <u>16</u> | <u>2,658</u> | <u>2,627</u> | <u>2,354</u> |
| Total | <u>30,861</u> | <u>19,578</u> | <u>16,199</u> | <u>41,283</u> | <u>55,001</u> |
| Total Value (\$'000) | <u>5,521</u> | <u>4,560</u> | <u>10,671</u> | <u>19,547</u> | <u>19,285</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 42

CANADIAN IMPORTS OF PALM KERNEL OIL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|--------------|--------------|---------------|
| Hong Kong | - | - | 200 | - | - |
| Indonesia | - | - | - | 473 | 2,223 |
| Malaysia | 4,400 | 4,474 | 2,970 | 3,966 | 4,685 |
| Netherlands | 15 | 142 | 78 | 13 | 10 |
| Nigeria | 626 | 975 | - | - | - |
| Singapore | 707 | - | - | - | 44 |
| United States | - | 351 | 1,126 | 640 | 3,388 |
| Total | <u>5,749</u> | <u>5,943</u> | <u>4,376</u> | <u>5,092</u> | <u>10,351</u> |
| Total Value (\$'000) | <u>1,257</u> | <u>2,160</u> | <u>4,459</u> | <u>2,565</u> | <u>3,174</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 43CANADIAN IMPORTS OF PEANUT OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Belgium-Luxembourg | 1,269 | - | - | - | - |
| Brazil | - | - | - | 2,444 | 3,602 |
| France | 74 | - | - | 18 | - |
| Gambia | 797 | - | - | - | - |
| Hong Kong | 90 | 94 | 190 | 97 | 52 |
| Japan | - | - | - | 5 | - |
| Netherlands | 203 | - | - | - | - |
| Nicaragua | - | - | - | - | 693 |
| Nigeria | 266 | 2,155 | - | - | - |
| Senegal | - | - | - | 507 | - |
| United Kingdom | - | - | 519 | 680 | <u>1/</u> |
| United States | <u>4,697</u> | <u>5,132</u> | <u>4,808</u> | <u>3,095</u> | <u>2,381</u> |
| Total | <u>7,398</u> | <u>7,382</u> | <u>5,519</u> | <u>6,846</u> | <u>6,734</u> |
| Total Value (\$'000) | <u>2,766</u> | <u>3,769</u> | <u>5,031</u> | <u>5,950</u> | <u>4,252</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 44

CANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS (NES) ^{1/}
(Metric Tons)

| DESTINATION | 1972 | 1973 | 1974 | 1975 | 1976 |
|----------------------|-------|--------|------|------|-------|
| Australia | - | - | - | 2/ | - |
| Bahamas | 2 | 5 | - | - | 4 |
| Barbados | 34 | 28 | 43 | 10 | 13 |
| Bermuda | 3 | 20 | 2 | - | - |
| British Honduras | 1 | 1 | - | - | - |
| Colombia | - | - | - | - | 443 |
| Costa Rica | 3 | - | - | - | - |
| Cuba | 8 | 14 | 1 | 183 | 4 |
| Cyprus | - | - | - | 2/ | - |
| El Salvador | 2/ | - | - | - | - |
| Emirates, UA | - | - | - | - | 13 |
| Germany, West | - | - | 1 | 2/ | 2,205 |
| Greenland | - | 1/ | - | - | - |
| Guatemala | 1 | - | - | - | - |
| Guyana | 37 | 26 | 154 | 6 | 2 |
| Haiti | - | - | - | 111 | - |
| Honduras | - | 6 | - | - | - |
| Hong Kong | 1,234 | 419 | - | - | - |
| India | - | - | - | - | 5 |
| Jamaica | 18 | 6 | 1 | 1 | - |
| Japan | 2/ | - | - | - | - |
| Jordan | - | - | - | - | 5 |
| Kenya | 2 | 2 | 1/ | - | - |
| Kuwait | - | - | 11 | - | - |
| Leeward-Windward Is. | 40 | 31 | 9 | 63 | 45 |
| Mexico | - | 9 | - | - | - |
| Netherlands-Antilles | 1 | - | - | - | - |
| Pakistan | 2,266 | - | - | - | - |
| Saudi Arabia | - | - | - | 99 | 3,156 |
| South Africa | - | - | 2/ | 2/ | - |
| St. Pierre-Miquelon | 2/ | 1 | 2/ | - | - |
| Sweden | - | - | - | - | 17 |
| Taiwan | - | - | - | - | 2/ |
| Trinidad-Tobago | 132 | 133 | 159 | 29 | 120 |
| United Kingdom | 4,439 | 12,100 | - | 71 | 125 |
| United States | 874 | 445 | 375 | 364 | 811 |
| TOTAL | 9,097 | 13,249 | 763 | 944 | 6,974 |
| TOTAL VALUE (\$'000) | 3,093 | 1,238 | 513 | 512 | 1,914 |

TABLE 44 (Cont'd)FOOTNOTES TOCANADIAN EXPORTS OF OTHER VEGETABLE OILS AND FATS (NES)^{1/}

1/ This export class No. 393-99 includes sunflower oil, salad & cooking oil and certain specialty fats like pan greases. Prior to 1973 it included rapeseed oil.

2/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 10

SPECIFIED FATS AND OILS

Margarine production continues to increase in volume whereas butter production remains in decline due, at least in part, to consumer resistance to higher butter prices. A study of butterfat utilization (Table 51) graphically illustrates the drop in creamery butter production. At the same time the small increase in utilization in cheese is probably an indication of a trend which may develop in 1977 as more butterfat is diverted to cheese production.

Canadian imports of margarine and shortening (Table 46) continued at a high level, although value was considerably lower than in 1975. At the same time, exports of these products (Table 47) showed a substantial increase, chiefly to Middle East countries.

Production of salad oils continued its steady growth from previous year (Table 45), whereas imports of vegetable cooking fats and packaged salad oils have declined markedly since the peak year of 1974 (Table 48). These figures would suggest that substitution of other fats has occurred within the industry.

In this connection it is interesting to note from Tables 47 and 49 that domestic production of lard declined marginally from 1975, whereas lard imports increased by almost 59% in 1976, at a much lower cost than in 1975.

Canadian exports of tallow, animal oils and fats (Table 50) increased by approximately 14% reflecting the increased cattle slaughter during the year. While the bulk of these products were shipped to traditional export markets, a study of this table indicates some interesting changes in market patterns and developing interest in some markets which have previously not been tapped. Of interest are the sales to West Germany, Iran and Taiwan, the growth in shipments to Italy and Nigeria and the total lack of repeat sales to the USSR. Recent changes in regulations governing tallow specifications made by the Japanese Government may cause sales of Canadian tallows to that country to decline. The table serves to indicate the wide range of market areas available to Canadian products.

Most recent slaughter forecasts for 1977 indicate as expected increase of from 8-10% in hog slaughter whereas beef slaughter is expected to decline from 2-4% from 1976. If these forecasts are realised then we may expect a corresponding increase in lard production and virtually unchanged tallow production as the decline will probably be in animals carrying less finish.

TABLE 45

CANADIAN PRODUCTION OF SPECIFIED FATS AND OILS PRODUCTS
(Thousands of Metric Tons)

| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------------|-------------|-------------|-------------|-------------|-------------|
| Margarine ^{1/} | 96 | 98 | 108 | 119 | 126 |
| Butter ^{2/} | 136 | 98 | 108 | 131 | 117 |
| <u>SHORTENING</u> | | | | | |
| Packaged ^{3/} | 16 | 17 | 17 | 23 | 90 |
| Bulk ^{4/} | 141 | 163 | 154 | 148 | 81 |
| <u>REFINED OILS</u> | | | | | |
| Salad ^{5/} | 64 | 69 | 77 | 81 | 95 |
| Lard ^{6/} | 55 | 50 | 50 | 43 | 42 |
| <u>TALLOW^{7/}</u> | | | | | |
| Edible | 20 | 18 | 16 | 17 | 16 |
| Inedible | 184 | 184 | 182 | 182 | 199 |

^{1/} Includes retail and commercial packages. Commercial sales (21-450 pound) packages account for about 5% of total output.

^{2/} Includes factory and farm butter.

^{3/} Retail packages up to 20 pounds only.

^{4/} Covers commercial (21-450 pound) packages, bulk and other than packaged retail sales of manufacturers of shortening and deodorized shortening oil. Includes baking and frying fats and oils.

^{5/} Covers packaged and bulk manufacturers' sales.

^{6/} Rendered lard includes shipments of processed lard in retail and commercial packages and bulk sales.

^{7/} Shipments for year.

SOURCE: Statistics Canada, Catalogue No.s 32-002 and 32-006

TABLE 46CANADIAN IMPORTS OF MARGARINE AND SHORTENING

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|---------------|---------------|---------------|
| Denmark | -- | 1 | -- | -- | -- |
| Germany, West | 5 | 1 | 9 | 1 | 4 |
| Greece | -- | 3 | -- | -- | 15 |
| India | -- | -- | -- | -- | 1 |
| Netherlands | -- | -- | -- | -- | 2 |
| St. Pierre-Miquelon | -- | -- | -- | -- | 22 |
| Sweden | 80 | 39 | 69 | 5 | 55 |
| United Kingdom | -- | -- | -- | -- | <u>1/</u> |
| United States | <u>5,047</u> | <u>4,314</u> | <u>11,903</u> | <u>15,695</u> | <u>16,221</u> |
| TOTAL | <u>5,133</u> | <u>4,360</u> | <u>11,983</u> | <u>15,701</u> | <u>16,322</u> |
| TOTAL VALUE (\$'000) | <u>1,643</u> | <u>1,743</u> | <u>9,005</u> | <u>11,399</u> | <u>8,967</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 47

CANADIAN EXPORTS OF MARGARINE, SHORTENING AND LARD
(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Bahamas | -- | -- | -- | 1 | -- |
| Bahrain | -- | -- | -- | -- | 17 |
| Barbados | -- | 39 | -- | -- | -- |
| Bermuda | 24 | 22 | 22 | 14 | 16 |
| Emirates, UA | -- | -- | -- | -- | 48 |
| Germany, West | -- | -- | | 1 | -- |
| Greenland | <u>1/</u> | 3 | -- | -- | -- |
| Jamaica | 8 | 4 | 30 | 22 | 35 |
| Japan | -- | -- | 18 | -- | -- |
| Jordan | -- | -- | -- | -- | 18 |
| Kuwait | -- | -- | -- | -- | 67 |
| Leeward-Windward Is. | <u>1/</u> | <u>1/</u> | <u>1/</u> | 3 | -- |
| Libya | -- | -- | -- | -- | 7 |
| Netherlands-Antilles | 2 | 3 | 1 | -- | -- |
| Qatar | -- | -- | -- | -- | 15 |
| Saudi Arabia | -- | -- | -- | -- | 405 |
| St. Pierre-Miquelon | 51 | 50 | 44 | 42 | 25 |
| Trinidad-Tobago | -- | -- | -- | <u>1/</u> | -- |
| United States | 148 | 22 | 234 | 182 | 49 |
| Yemen | <u>--</u> | <u>1/</u> | <u>--</u> | <u>--</u> | <u>--</u> |
| TOTAL | <u>235</u> | <u>144</u> | <u>352</u> | <u>268</u> | <u>706</u> |
| TOTAL VALUE (\$'000) | <u>91</u> | <u>100</u> | <u>290</u> | <u>248</u> | <u>543</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue 65-004

TABLE 48CANADIAN IMPORTS OF VEGETABLE COOKING FATSAND PACKAGED SALAD OILS

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Denmark | - | - | 2 | - | - |
| France | 20 | - | 17 | 12 | - |
| Germany, West | 1 | - | - | - | - |
| Greece | - | 8 | 18 | 15 | - |
| Hong Kong | 1 | 1 | - | - | <u>1/</u> |
| Israel | - | - | 1,000 | - | <u>1/</u> |
| Italy | 8 | - | - | - | - |
| Singapore | 1 | - | - | - | - |
| Sweden | 17 | 26 | 18 | 14 | 5 |
| United Kingdom | 4 | 285 | 16 | 57 | 3 |
| United States | 488 | 709 | 386 | 594 | 135 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Total | 543 | 1,030 | 1,461 | 692 | 144 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |
| Total Value (\$'000) | 234 | 636 | 471 | 389 | 109 |
| | <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 49

CANADIAN IMPORTS OF LARD, TALLOW, ANIMAL OILS AND FATS
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>L A R D</u> | | | <u>1975</u> | <u>1976</u> |
|--------------------------|----------------|--------------|---------------|---------------|---------------|
| | <u>1972</u> | <u>1973</u> | <u>1974</u> | | |
| Australia | -- | 1 | 9 | -- | 7 |
| Norway | -- | -- | -- | 1/ | -- |
| United States | <u>9,782</u> | <u>7,158</u> | <u>17,671</u> | <u>12,118</u> | <u>19,239</u> |
| TOTAL | <u>9,782</u> | <u>7,160</u> | <u>17,680</u> | <u>12,119</u> | <u>19,246</u> |
| TOTAL VALUE (\$'000) | <u>2,258</u> | <u>2,531</u> | <u>12,306</u> | <u>8,276</u> | <u>8,000</u> |

| <u>COUNTRY OF ORIGIN</u> | <u>TALLOW, ANIMAL OILS AND FATS (NES)</u> | | | | |
|--------------------------|---|--------------|--------------|--------------|--------------|
| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
| Australia | 9 | 22 | 3 | 11 | 5 |
| Germany, West | -- | 1 | -- | 10 | -- |
| Netherlands | 673 | -- | -- | -- | 1 |
| New Zealand | -- | -- | -- | -- | 10 |
| United Kingdom | -- | 1 | -- | -- | -- |
| United States | <u>8,871</u> | <u>3,228</u> | <u>4,314</u> | <u>2,134</u> | <u>1,467</u> |
| TOTAL | <u>9,553</u> | <u>3,253</u> | <u>4,318</u> | <u>2,155</u> | <u>1,485</u> |
| TOTAL VALUE (\$'000) | <u>1,929</u> | <u>1,226</u> | <u>1,803</u> | <u>768</u> | <u>639</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 50

CANADIAN EXPORTS OF TALLOW, ANIMAL OILS AND FATS (NES)

(Metric Tons)

| DESTINATION | 1972 | 1973 | 1974 | 1975 | 1976 |
|-----------------------------|----------------|---------------|----------------|---------------|----------------|
| Barbados | -- | 23 | 90 | 27 | 21 |
| Belgium-Luxembourg | 2,438 | 1,183 | 598 | 996 | 2,022 |
| Bermuda | 1/ | -- | -- | -- | 1 |
| Brazil | -- | -- | 97 | -- | -- |
| Colombia | -- | -- | -- | 52 | 32 |
| Cuba | 995 | 4,904 | 13,638 | 13,587 | 10,702 |
| Dominican Republic | -- | -- | 18 | -- | -- |
| France | 1/ | 949 | 1,002 | 5 | 10 |
| Germany, West | 902 | 1,470 | -- | 300 | 3,857 |
| Ghana | 249 | -- | 596 | 749 | -- |
| Guatemala | 1 | -- | 32 | 21 | -- |
| Guyana | -- | -- | -- | 136 | -- |
| Iran | -- | -- | -- | -- | 1,300 |
| Ireland | -- | -- | -- | 300 | -- |
| Italy | -- | -- | -- | 548 | 1,413 |
| Jamaica | 6 | 28 | 238 | 299 | 474 |
| Japan | 22,713 | 19,460 | 15,376 | 10,400 | 18,058 |
| Kenya | 54 | -- | -- | -- | 50 |
| Korea, South | -- | 985 | 5,272 | 15,700 | 13,190 |
| Leeward-Windward Is. | 69 | 59 | 4 | -- | 4 |
| Malaysia | 18 | -- | -- | 73 | 56 |
| Mexico | -- | -- | 16 | 25 | 20 |
| Morocco | -- | -- | -- | 574 | -- |
| Netherlands | 23,920 | 6,709 | 24,184 | 16,697 | 29,077 |
| Netherlands-Antilles | -- | -- | 3 | -- | -- |
| Nigeria | -- | -- | -- | 924 | 1,319 |
| Norway | -- | 297 | 16 | 71 | -- |
| Panama | -- | -- | -- | -- | 4 |
| People's Republic of China | 21,421 | 9,948 | 11,112 | 5,589 | 2,033 |
| Portugal | -- | -- | -- | 52 | 157 |
| Puerto Rico | -- | -- | 17 | -- | -- |
| Senegal | -- | -- | 997 | 708 | -- |
| Singapore | 1 | -- | 36 | 158 | 18 |
| Spain | 3,354 | 936 | 1,550 | 9,656 | 7,390 |
| St. Pierre-Miquelon | 1/ | 1/ | 1/ | -- | -- |
| Surinam | 22 | -- | -- | -- | -- |
| Switzerland | 33 | 93 | 150 | 209 | 272 |
| Taiwan | 694 | -- | -- | -- | 1,680 |
| Trinidad-Tobago | 803 | 588 | 326 | 294 | 503 |
| United Kingdom | 17,725 | 22,140 | 13,803 | 5,541 | 9,778 |
| United States | 11,965 | 16,221 | 10,885 | 11,044 | 9,651 |
| U.S.S.R. | -- | -- | -- | 3,774 | -- |
| Venezuela | -- | 18 | 193 | 69 | 66 |
| Zaire | -- | -- | -- | 747 | -- |
| Zambia | 27 | -- | 1,203 | -- | -- |
| TOTAL | 107,423 | 87,042 | 101,458 | 99,335 | 113,166 |
| TOTAL VALUE (\$'000) | 16,479 | 24,407 | 41,253 | 32,218 | 38,589 |

TABLE 50 (Cont'd)FOOTNOTES TOCANADIAN EXPORTS OF TALLOW, ANIMAL OILS AND FATS (NES)

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

TABLE 51

CANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

(Thousands of Metric Tons)

| Year | Total Milk Production | | Butterfat Utilization | | | |
|------|--------------------------|---------------------------------------|---|--------------------------------------|--------------------------|--------------------|
| | Whole Milk | Butterfat Equivalent ^{1/} | Manufactured Dairy Products ^{2/} | Fluid Milk Sales ^{3/} | Farm Home Consumed | Fed on Farms |
| | | | | | | |
| 1967 | 8,259 | 289 | 180 | 82 | 13 | 10 |
| 1968 | 8,329 | 290 | 184 | 81 | 13 | 10 |
| 1969 | 8,487 | 297 | 191 | 80 | 13 | 10 |
| 1970 | 8,306 | 290 | 183 | 82 | 12 | 10 |
| 1971 | 8,062 | 282 | 174 | 83 | 11 | 10 |
| 1972 | 8,032 | 281 | 177 | 86 | 7 | 10 |
| 1973 | 7,659 | 261 | 155 | 87 | 7 | 11 |
| 1974 | 7,561 | 259 | 153 ^{6/} | 89 | 6 | 11 |
| 1975 | 8,017 | 273 | 169 | 87 | 5 | 12 |
| 1976 | 7,978 | 269 | 157 | 90 | 5 | 17 |

BUTTERFAT UTILIZATION IN MANUFACTURED DAIRY PRODUCTS

| Year | Total | Creamery Butter | Cheese ^{4/} | Concentrated Whole Milk Products | Ice-Cream Mix |
|------|-------------------|--------------------|----------------------|--|------------------|
| 1967 | 180 | 121 | 33 | 13 | 11 |
| 1968 | 184 | 123 | 34 | 12 | 11 |
| 1969 | 191 | 129 | 35 | 24 | 5 [/] |
| 1970 | 183 | 121 | 37 | 23 | 5 [/] |
| 1971 | 174 | 106 | 38 | 10 | 16 |
| 1972 | 177 | 108 | 38 | 10 | 16 |
| 1973 | 155 | 92 | 38 | 10 | 14 |
| 1974 | 153 ^{6/} | 85 | 44 ^{6/} | 9 | 14 |
| 1975 | 169 | 104 | 41 | 9 | 15 |
| 1976 | 157 | 92 | 42 | 8 | 15 |

TABLE 51 (Cont'd)FOOTNOTES TOCANADIAN TRENDS IN BUTTERFAT PRODUCTION AND UTILIZATION

- 1/ Fat content of milk based on conversion factor of 3.5%.
- 2/ Includes creamery butter, cheddar cheese (bulk of all Canadian cheese production), other cheese, concentrated whole milk products, ice-cream mix.
- 3/ Fluid milk sales represent whole milk sales from farms for use in milk and cream.
- 4/ Includes mainly cheddar cheese and other factory cheese made from whole milk and cream. Excludes creamed cottage cheese.
- 5/ Included with concentrated whole milk products.
- 6/ Revised figure.

SOURCE: Based on unpublished Statistics Canada data.

CHAPTER 11

MARINE AND FISH OILS AND MEALS

Trends in the Fish Reduction Industry

Whereas the latter half of the 1960's was characterized by the rapid growth and development of the Atlantic Coast Fish Meal and Marine Oil industry, the 1970's have, on the other hand, witnessed the peaking and subsequent reversal of this trend. Landings of herring on which this growth phase was based have declined since 1968-70 when landings reached a plateau in excess of 1 million tons, to less than 300,000 tons in each of the past three years. In addition to the decline in the herring catch per se there has been a progressive diversion of landings into the production of food products, in response to the emergence of a market for Canadian food herring in Europe and Japan which has further reduced the raw material available to the reduction industry.

Given the growing importance that is being placed on utilization of herring for direct food production relative to reduction, it is difficult to visualize any reversal in the current declining trend in landings of herring for reduction into meal and oil. It is too early to assess the benefits on herring stocks, particularly on the east coast from the proposed establishment by Canada of a 200-mile economic fishing zone. However, any increase in supplies are likely to be gradual and it is expected that every effort will be made towards utilizing herring for food.

Marine Oil

In 1976, the total output of marine oil in Canada was 9,649 tons (Table 52), as against 13,272 in 1975 and over 36,000 tons in 1970. This decline was primarily attributable to the decline in the production of herring oil which fell by some 75% over the period. Although ground-fish body and offal oil has declined about 60% since 1973 to 3,883 tons in 1976, it has become the major source of marine oil and a gradual upward trend in production is anticipated.

Fish Meal

The production of fish meal in 1976 was 57,276 tons, an increase of over 10,000 tons over 1975 (Table 55). This was largely attributable to an increase in groundfish reduction of over 20% above the level of 1974 and 1975 to 33,342 tons in 1976. This upward trend is expected to continue and to increase sharply in the 1980's as a result of larger Canadian catches on the Atlantic coast as a consequence of the extended fishing zone.

The scope for utilization of the herring resource - which historically has provided the main source of raw material for reduction - is now severely circumscribed; Pacific herring may now be harvested for food purposes only, and the raw material available to the reduction industry is consequently confined to that portion of the catch not suitable for conversion to food products. Herring meal production has declined from 16,484 tons in 1974 to 13,047 tons in 1976, but the latter production level could be maintained over the next few years.

TABLE 52

CANADIAN PRODUCTION OF MARINE OILS BY TYPES AND AREAS
(Metric Tons)

| <u>ATLANTIC COAST</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976^{1/}</u> |
|--------------------------|---------------|---------------|-----------------------|---------------------------|
| Body or Offal Oil: | | | | |
| Groundfish | 11,039 | 7,222 | 4,543 | 3,883 |
| Herring | 15,022 | 13,936 | 5,517 | 3,599 |
| Other ^{2/} | 394 | 755 | 18 | 54 |
| Liver Oil: | | | | |
| Groundfish | 419 | 226 | 279 | 52 |
| Seal Oil: | -- | -- | 1,486 | 661 |
| ATLANTIC TOTAL | <u>26,874</u> | <u>22,139</u> | <u>11,843</u> | <u>8,249</u> |
| <u>PACIFIC COAST</u> | | | | |
| Body or Offal Oil: | | | | |
| Herring | 1,105 | 585 | x ^{3/} | x ^{3/} |
| Salmon | 802 | 415 | x ^{3/} | x ^{3/} |
| Other | <u>217</u> | <u>100</u> | <u>x^{3/}</u> | <u>x^{3/}</u> |
| PACIFIC TOTAL | <u>2,124</u> | <u>1,100</u> | <u>1,429</u> | <u>1,400^{4/}</u> |
| CANADA TOTAL | <u>28,998</u> | <u>23,239</u> | <u>13,272</u> | <u>9,649</u> |

^{1/} Preliminary^{2/} Primarily whale oil^{3/} Confidential - to meet secrecy requirements of the Statistics Act.^{4/} EstimateSOURCE: Based on Environment Canada data.

TABLE 53CANADIAN IMPORTS OF FISH AND MARINE OILS (NES)

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|-----------------------------|--------------|--------------|-------------|-------------|-------------|
| Denmark | -- | 6 | <u>1/</u> | 1 | <u>1/</u> |
| France | -- | -- | <u>1/</u> | -- | -- |
| Germany, West | -- | -- | <u>1/</u> | -- | 4 |
| Japan | -- | 6 | 89 | -- | 9 |
| Netherlands | -- | -- | -- | -- | 6 |
| Norway | 167 | 134 | 179 | 629 | 150 |
| South Africa | 73 | 89 | 92 | -- | -- |
| United Kingdom | 234 | 323 | 165 | 49 | 28 |
| United States | <u>1,175</u> | <u>676</u> | <u>322</u> | <u>199</u> | <u>99</u> |
| TOTAL | <u>1,651</u> | <u>1,237</u> | <u>849</u> | <u>878</u> | <u>299</u> |
| TOTAL VALUE (\$'000) | <u>439</u> | <u>424</u> | <u>467</u> | <u>500</u> | <u>233</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 54CANADIAN EXPORTS OF MARINE OILS BY TYPES

(Metric Tons)

| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------------------|--------------|--------------|--------------|--------------|---------------|
| Cod Liver Oil, Sun Rotted | 998 | 1,270 | 1,043 | 868 | 1,381 |
| Herring Oil | 3,401 | 2,812 | 5,488 | 2,277 | 5,315 |
| Whale Oil | 2,177 | 1,224 | -- | -- | 5 |
| Fish & Marine Animal Oil, NES | <u>635</u> | <u>2,676</u> | <u>2,313</u> | <u>1,746</u> | <u>3,408</u> |
| TOTAL | <u>7,212</u> | <u>7,983</u> | <u>8,845</u> | <u>4,891</u> | <u>10,110</u> |
| TOTAL VALUE (\$'000) | <u>1,368</u> | <u>1,795</u> | <u>3,763</u> | <u>1,837</u> | <u>2,968</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 55CANADIAN PRODUCTION OF FISH MEALS BY TYPES AND AREAS

| <u>ATLANTIC COAST</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976^{1/}</u> |
|-----------------------|---------------|---------------|-----------------------|---------------------------|
| Groundfish | 34,485 | 26,700 | 25,708 | 33,342 |
| Herring | 13,650 | 16,484 | 14,327 | 13,047 |
| Other | <u>1,721</u> | <u>2,321</u> | <u>589</u> | <u>4,387</u> |
| ATLANTIC TOTAL | <u>49,856</u> | <u>45,505</u> | <u>40,624</u> | <u>50,776</u> |
| <u>PACIFIC COAST</u> | | | | |
| Herring | 4,278 | 4,711 | x ^{2/} | x ^{2/} |
| Salmon | 1,561 | 887 | x ^{2/} | x ^{2/} |
| Other | <u>592</u> | <u>554</u> | <u>x^{2/}</u> | <u>x^{2/}</u> |
| PACIFIC TOTAL | <u>6,431</u> | <u>6,152</u> | <u>6,540</u> | <u>6,500^{3/}</u> |
| CANADA TOTAL | <u>56,287</u> | <u>51,657</u> | <u>47,164</u> | <u>57,276</u> |

^{1/} Preliminary^{2/} Confidential - to meet secrecy requirements of the Statistics Canada Act.^{3/} EstimateSOURCE: Based on Environment Canada data.

TABLE 56

CANADIAN IMPORTS OF FISH MEAL
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|-------------|-------------|-------------|-------------|
| Cuba | - | - | - | - | 163 |
| Denmark | - | - | 10 | - | - |
| France | - | - | - | 59 | - |
| Germany, West | - | - | <u>1/</u> | - | 229 |
| Japan | - | - | - | 2 | - |
| Peru | 944 | 21 | - | - | - |
| Puerto Rico | 20 | 81 | - | 41 | 40 |
| United Kingdom | - | - | 2 | - | 7 |
| United States | <u>255</u> | <u>379</u> | <u>245</u> | <u>209</u> | <u>521</u> |
| TOTAL | <u>1,220</u> | <u>482</u> | <u>261</u> | <u>311</u> | <u>962</u> |
| TOTAL VALUE (\$'000) | <u>216</u> | <u>121</u> | <u>83</u> | <u>87</u> | <u>309</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 57

CANADIAN EXPORTS OF FISH MEAL AND CONDENSED SOLUBLES
(Metric Tons)

| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|---|---------------|---------------|---------------|---------------|---------------|
| Herring Meal and Pilchard Meal | 20,605 | 12,997 | 16,281 | 14,733 | 14,972 |
| Fish Meal NES | 12,089 | 16,386 | 18,393 | 9,515 | 17,000 |
| Fish Condensed Homogenized Solubles | <u>176</u> | <u>185</u> | <u>-</u> | <u>43</u> | <u>941</u> |
| TOTAL (Meal Only) | <u>32,870</u> | <u>29,568</u> | <u>34,678</u> | <u>24,291</u> | <u>32,913</u> |
| TOTAL VALUE (Meal Only) (\$'000) | <u>6,703</u> | <u>11,023</u> | <u>12,160</u> | <u>6,071</u> | <u>9,422</u> |

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 12

THE CANADIAN FLAXSEED SITUATION

Canadian Flaxseed Production

Flaxseed production increased slightly in the crop year 1975-76 over 1974-75 but still well below the 1971-72 production (Table 58). Only two flaxseed crushing plants are operating in Canada since the 1974-75 crop year.

Canadian Exports of Flaxseed

Canadian exports of flaxseed increased in 1976 over 1975 but continues its downward trend since 1972 (Table 60). The major markets continue to be Japan, West Germany and the Netherlands. Exports to the United States increased in 1976 over 1975 by 36.7 thousand metric tons because of a shortage of supplies in the United States. United States production is expected to increase in the 1977-78 crop year.

Canadian Exports of Linseed Oil and Meal

Exports of linseed oil and meal increased in 1976 over 1975 but are still well below the exports of 1972 (Tables 61 and 62).

TABLE 58

CANADIAN SUPPLY AND DISPOSITION OF FLAXSEED,
LINSEED OIL AND LINSEED MEAL
 (Crop Year)

| | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/</u> |
|--------------------------------|------------------------|----------------|----------------|-----------------|-----------------|
| | (Thousands of Bushels) | | | | |
| <u>FLAXSEED</u> | | | | | |
| Stocks, Starting ^{1/} | 25,306 | 16,032 | 7,673 | 7,911 | 8,6 |
| Production | 22,387 | 17,617 | 19,400 | 13,800 | 17,5 |
| Imports | - | 3 | 17 | 16 | - |
| Exports | 25,741 | 19,640 | 15,503 | 10,519 | 7,6 |
| Domestic Crushing | 3,101 | 2,633 | 762 | x ^{2/} | x ^{2/} |
| <u>LINSEED OIL</u> | | | | | |
| | (Metric Tons) | | | | |
| Exports | 14,919 | 10,588 | 2,230 | 2,184 | 5,8 |
| Domestic Production | 26,762 | 22,762 | 6,601 | x ^{2/} | x ^{2/} |
| <u>LINSEED MEAL</u> | | | | | |
| | (Metric Tons) | | | | |
| Exports | 20,539 | 12,735 | 24 | 196 | 6 |
| Domestic Production | 49,875 | 42,037 | 11,932 | x ^{2/} | x ^{2/} |

1/ Total Stocks in all positions.

2/ Confidential - to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 22-006.

TABLE 59CANADIAN IMPORTS OF FLAXSEED

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Kenya | 2 | -- | -- | -- | -- |
| United States | <u>15</u> | <u>86</u> | <u>451</u> | <u>337</u> | <u>1/</u> |
| TOTAL | <u>17</u> | <u>86</u> | <u>451</u> | <u>337</u> | <u>1/</u> |
| TOTAL VALUE (\$'000) | <u>3</u> | <u>25</u> | <u>333</u> | <u>171</u> | <u>--</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007

TABLE 60

CANADIAN EXPORTS OF FLAXSEED

(Metric Tons)

| DESTINATION | 1 9 7 2 | 1 9 7 3 | 1 9 7 4 | 1 9 7 5 | 1 9 7 6 |
|----------------------|---------|---------|---------|---------|---------|
| Australia | 12,031 | -- | 5,633 | -- | -- |
| Austria | -- | -- | -- | 34 | 36 |
| Belgium-Luxembourg | 28,552 | 11,886 | 7,477 | 2,951 | 1,763 |
| Czechoslovakia | 5,973 | 15,826 | 25,004 | 17,717 | 3,151 |
| Denmark | 316 | 2,062 | -- | -- | -- |
| France | 8,181 | 7,772 | 5,202 | 1,848 | 508 |
| Germany, East | -- | -- | 3,860 | -- | -- |
| Germany, West | 79,224 | 117,865 | 110,680 | 77,619 | 81,224 |
| Greece | 11,238 | 1,371 | 2,184 | 1,050 | 1,500 |
| Italy | 7,910 | 12,755 | -- | -- | -- |
| Japan | 107,328 | 110,123 | 77,027 | 65,330 | 90,647 |
| Korea, South | 4,714 | 2,971 | -- | -- | 1,750 |
| Lebanon | 3,484 | -- | -- | -- | -- |
| Netherlands | 252,705 | 86,808 | 41,289 | 31,516 | 11,078 |
| New Zealand | -- | -- | 2,199 | -- | -- |
| Norway | 4,000 | -- | -- | -- | -- |
| Panama | -- | -- | -- | 2,117 | -- |
| Poland | -- | -- | 23,263 | 18,926 | -- |
| Spain | 11,734 | 10,833 | 6,500 | 6,580 | 8,547 |
| Sweden | -- | -- | -- | 72 | 54 |
| Switzerland | 10,739 | 1,906 | 1,237 | 108 | 1,468 |
| Trinidad-Tobago | -- | -- | -- | 2 | -- |
| United Kingdom | 46,902 | 49,841 | 31,337 | 15,573 | 4,672 |
| United States | 2 | 1,170 | 12,659 | 3,493 | 40,198 |
| TOTAL | 594,597 | 433,200 | 351,031 | 244,942 | 246,602 |
| TOTAL VALUE (\$'000) | 68,511 | 112,984 | 148,631 | 83,815 | 66,278 |

SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 61CANADIAN EXPORTS OF LINSEED OIL

(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------|--------------|-------------|--------------|--------------|
| Bahamas | <u>1/</u> | -- | -- | -- | -- |
| Barbados | 2 | -- | -- | -- | -- |
| Belgium-Luxembourg | -- | -- | -- | 1,526 | 1,965 |
| Bermuda | 1 | -- | -- | 1 | 1 |
| Ecuador | -- | 1 | -- | -- | -- |
| French West Indies | -- | -- | -- | -- | <u>1/</u> |
| Germany, West | 711 | -- | -- | -- | -- |
| Guatemala | -- | -- | -- | -- | -- |
| Jamaica | -- | -- | -- | <u>1/</u> | -- |
| Liberia | -- | -- | 2 | 2 | -- |
| Netherlands | -- | -- | -- | 1,590 | 2,848 |
| Netherlands-Antilles | -- | -- | -- | -- | -- |
| Nigeria | -- | <u>1/</u> | -- | -- | -- |
| United Kingdom | 14,488 | 5,962 | 581 | 398 | 250 |
| United States | 839 | 96 | -- | 36 | 34 |
| Venezuela | <u>40</u> | <u>18</u> | <u>8</u> | <u>7</u> | <u>8</u> |
| TOTAL | <u>16,082</u> | <u>6,078</u> | <u>592</u> | <u>3,562</u> | <u>5,108</u> |
| TOTAL VALUE (\$'000) | <u>3,276</u> | <u>2,314</u> | <u>655</u> | <u>3,237</u> | <u>2,758</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-004

TABLE 62

CANADIAN EXPORTS OF LINSEED CAKE AND MEAL
(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|---------------|--------------|-------------|-------------|--------------|
| Barbados | 816 | -- | -- | -- | -- |
| Belgium-Luxembourg | -- | -- | -- | -- | 481 |
| Denmark | 1,872 | -- | -- | -- | -- |
| Germany, West | 3,744 | -- | -- | -- | 3,150 |
| Guyana | 5 | -- | -- | -- | -- |
| Leeward-Windward Is. | 124 | 4 | -- | -- | -- |
| Netherlands | 3,173 | 1,873 | -- | -- | -- |
| Sweden | -- | -- | -- | -- | 22 |
| Trinidad-Tobago | 416 | 168 | 49 | 114 | 60 |
| United Kingdom | 4,852 | 2,313 | -- | -- | -- |
| United States | <u>2,693</u> | <u>1,151</u> | <u>64</u> | <u>80</u> | <u>159</u> |
| TOTAL | <u>17,699</u> | <u>5,511</u> | <u>114</u> | <u>194</u> | <u>3,875</u> |
| TOTAL VALUE (\$'000) | <u>1,398</u> | <u>822</u> | <u>24</u> | <u>37</u> | <u>835</u> |

SOURCE: Statistics Canada Catalogue No. 65-004.

TABLE 63

QUALITY DATA FOR WESTERN CANADIAN FLAXSEED, SURVEY SAMPLES OF 1975 AND 1976 CROPS

| | Oil Content ^{1/} | | Iodine Value | | Protein Content ^{2/} | | No. of Samples | | | | | |
|----------------|---------------------------|------|--------------|------|-------------------------------|------|----------------|------|------|-----|-----|-------|
| | 1975 | 1976 | 1975 | 1976 | 1975 | 1976 | 1975 | 1976 | | | | |
| WESTERN CANADA | | | | | | | | | | | | |
| No. 1 CW | 42.1 | 43.0 | 43.1 | 188 | 192 | 194 | 42.6 | 41.1 | 41.1 | 246 | 289 | 1,012 |
| No. 2 CW | 42.2 | 43.8 | 42.6 | 188 | 193 | 199 | 42.4 | 43.3 | 39.0 | 33 | 4 | 32 |
| No. 3 CW | 41.4 | - | 42.6 | 188 | - | 198 | 43.8 | - | 38.2 | 11 | - | 14 |
| No. 4 CW | - | - | 39.6 | - | - | 196 | - | - | 37.1 | - | - | 3 |
| All Grades | 42.1 | 43.0 | 43.1 | 188 | 192 | 194 | 42.6 | 41.1 | 41.0 | 290 | 293 | 1,061 |

ALL GRADES

| | | | | | | | | | | | | |
|--------------|------|------|---|-----|-----|---|------|------|---|-----|-----|---|
| Manitoba | 41.7 | 43.0 | - | 185 | 192 | - | 42.8 | 41.8 | - | 135 | 161 | - |
| Saskatchewan | 42.1 | 42.9 | - | 189 | 192 | - | 42.9 | 39.7 | - | 103 | 94 | - |
| Alberta | 43.2 | 43.2 | - | 195 | 194 | - | 41.4 | 41.7 | - | 52 | 38 | - |

99

^{1/} Oil Content of seed is reported on moisture-free basis.^{2/} Protein Content is reported on oil-free meal and moisture-free basis.^{3/} Crop year final.

SOURCE: Canadian Grain Commission, Crop Bulletin Nos. 129 and 133.

TABLE 64

SUMMERFALLOW AND STUBBLE CULTIVATION OF FLAXSEED

| <u>Seeded Area</u> | <u>Summer-fallow</u> | <u>Stubble</u> | <u>Total</u> |
|--------------------|----------------------|----------------|--------------|
| | ('000 Acres) | | |
| 1972 | 746 | 574 | 1,320 |
| 1973 | 776 | 674 | 1,450 |
| 1974 | 731 | 719 | 1,450 |
| 1975 | 658 | 742 | 1,400 |
| 1976 | 352 | 523 | 875 |

| <u>Distribution</u> | (Per Cent) | | |
|---------------------|------------|----|-----|
| 1972 | 57 | 43 | 100 |
| 1973 | 54 | 46 | 100 |
| 1974 | 50 | 50 | 100 |
| 1975 | 47 | 53 | 100 |
| 1976 | 40 | 60 | 100 |

| <u>Average Yield Per Seeded Acre</u> | (Bushels) | | |
|--|-----------|------|------|
| 1972 | 15.2 | 11.0 | 13.3 |
| 1973 | 14.6 | 12.0 | 13.4 |
| 1974 | 10.5 | 8.5 | 9.5 |
| 1975 | 14.6 | 10.6 | 12.5 |
| 1976 | 16.2 | 11.5 | 13.4 |

| <u>Production</u> | (Million Bushels) | | |
|-------------------|-------------------|-----|------|
| 1972 | 11.3 | 6.3 | 17.6 |
| 1973 | 11.3 | 8.1 | 19.4 |
| 1974 | 7.7 | 6.1 | 13.8 |
| 1975 | 9.6 | 7.9 | 17.5 |
| 1976 | 5.7 | 6.0 | 11.7 |

SOURCE: Statistics Canada, Catalogue No. 22-002

TABLE 65

CANADIAN FLAXSEED PRICES^{1/}
(Crop Year)

| <u>M O N T H</u> | <u>1971/72</u> | <u>1972/73</u> | <u>1973/74</u> | <u>1974/75</u> | <u>1975/76</u> |
|------------------|--|----------------|----------------|----------------|----------------|
| |(Cents and Eighths per Bushel)..... | | | | |
| August | 234/6 | 305/7 | 878/7 | 1099/7 | 854/3 |
| September | 226/7 | 325/4 | 885/6 | 1172 | 790 |
| October | 243/2 | 357/7 | 898/6 | 1219/1 | 722/2 |
| November | 238/4 | 353 | 1018/5 | 1094/2 | 655/7 |
| December | 236/3 | 366/7 | 1060/5 | 1066/5 | 628/5 |
| January | 248/7 | 436/4 | 1122/6 | 922/4 | 657 |
| February | 259 | 535/6 | 1167 | 810/5 | 653/2 |
| March | 277/6 | 483/3 | 1107 | 784/1 | 646 |
| April | 285 | 478 | 967/3 | 861/3 | 634 |
| May | 271/2 | 552/6 | 991/6 | 825/6 | 657/7 |
| June | 277/2 | 701/7 | 979/5 | 779/7 | 713/3 |
| July | <u>288/1</u> | <u>895/6</u> | <u>1095/2</u> | <u>815/2</u> | <u>742/6</u> |
| Yearly Average | <u>257/2</u> | <u>482/6</u> | <u>1014/4</u> | <u>954/2</u> | <u>696/3</u> |

^{1/} Winnipeg Grain Exchange No. 1 C.W. Flaxseed, basis Thunder Bay.

SOURCE: Statistics Canada, Catalogue No. 22-006.

CHAPTER 13

OTHER INEDIBLE FATS AND OILS

Grouped together for consideration in this publication as other inedible fats and oils are castor, tung and tall oils, tall oil pitch, tall oil fatty acids, chemically modified oils, fats and waxes and mixtures and derivatives of oils, fats and waxes.

Canadian imports of castor oil in 1976 was about 2/3 of the amount imported in 1975 (Table 66). All of the drop was accounted for by imports from Brazil while our imports from the United States actually increased by some 134 metric tons. The average price paid per metric ton was \$625 in 1976 compared to \$610 in 1975, \$890 in 1974 and \$1,025 in 1973.

Tung oil imports increased slightly in 1976 over 1975 with Paraguay becoming our major supplier (Table 67). During the past year supplies from Argentina, the People's Republic of China and the United States decreased substantially while Brazil became a nominal supplier for the first time in three years. Average cost per metric ton of this item in 1976 was just over \$900 as against \$640 in 1975 and \$725 in 1974.

Imports of tall oil, tall oil pitch and tall oil fatty acids remained at traditional levels in 1976 (Table 68). The United States supplies Canada with 99.9% of her requirements. The average cost per metric ton in 1976 was between \$375 and \$380 compared with \$460-\$465 in 1975 and \$500-\$505 in 1974.

Canadian imports of chemically modified oils, fats and waxes also remained at traditional levels of the past four years (Table 69). The United States and the United Kingdom continue to be our major suppliers while Brazil and the Netherlands-Antilles ceased to export any quantity to Canada in 1976. Prices per metric ton averaged \$995 in 1976 compared to \$1,185 in 1975 and \$950 in 1974.

Imports of mixtures and derivatives of oils, fats and waxes in 1976 were at the second lowest level in five years (Table 70). The United States supplied some 96% of our requirements in 1976 while the average price paid per metric ton was 1976 - \$730, 1975 - \$450 and 1974 - \$670.

As for Canadian exports of chemically modified oils, fats and waxes the increased level of 1975 was almost attained in 1976 (Table 71). The United States took 99.9% of our supplies and paid on the average \$220 per metric ton as compared to a price of \$175 in 1975 and \$475 in 1974.

TABLE 66CANADIAN IMPORTS OF CASTOR OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Brazil | 2,023 | 2,401 | 1,529 | 1,697 | 968 |
| Colombia | - | 8 | - | - | - |
| United States | <u>147</u> | <u>377</u> | <u>320</u> | <u>211</u> | <u>345</u> |
| Total | <u>2,170</u> | <u>2,787</u> | <u>1,850</u> | <u>1,908</u> | <u>1,313</u> |
| Total Value (\$'000) | <u>1,035</u> | <u>2,858</u> | <u>1,646</u> | <u>1,169</u> | <u>822</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 67CANADIAN IMPORTS OF TUNG OIL

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|-------------|-------------|-------------|
| Argentina | 584 | 991 | 127 | 141 | 70 |
| Brazil | - | 14 | - | - | 14 |
| Denmark | - | - | - | - | <u>1/</u> |
| Paraguay | 229 | 57 | 42 | 56 | 381 |
| People's Rep. of China | 20 | 89 | 183 | 70 | 20 |
| United States | <u>189</u> | <u>88</u> | <u>70</u> | <u>423</u> | <u>247</u> |
| Total | <u>1,023</u> | <u>1,241</u> | <u>425</u> | <u>690</u> | <u>734</u> |
| Total Value (\$'000) | <u>240</u> | <u>527</u> | <u>308</u> | <u>441</u> | <u>663</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 68

CANADIAN IMPORTS OF TALL OIL, TALL OIL PITCH
AND TALL OIL FATTY ACIDS

| | (Metric Tons) | | | | |
|------------------------------------|---------------|--------------|--------------|--------------|--------------|
| | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
| <u>TALL OIL AND TALL OIL PITCH</u> | | | | | |
| Netherlands | - | 4 | - | - | - |
| United States | 1,578 | 1,502 | 2,254 | 2,378 | 2,849 |
| <u>TALL OIL FATTY ACIDS</u> | | | | | |
| Germany, West | - | - | - | - | 15 |
| People's Republic of China | - | - | - | 2 | - |
| United States | <u>6,912</u> | <u>5,807</u> | <u>4,715</u> | <u>5,053</u> | <u>4,806</u> |
| Total | <u>8,490</u> | <u>7,314</u> | <u>6,969</u> | <u>7,433</u> | <u>7,670</u> |
| Total Value (\$'000) | <u>1,718</u> | <u>1,931</u> | <u>3,500</u> | <u>3,447</u> | <u>2,906</u> |

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 69

CANADIAN IMPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES

(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| Brazil | - | - | 20 | 69 | - |
| Denmark | 1 | 1 | - | <u>1/</u> | - |
| France | <u>1/</u> | <u>1/</u> | 3 | - | - |
| Germany, West | 3 | 3 | 8 | 8 | 72 |
| Greece | - | - | - | 3 | - |
| Israel | - | - | - | - | <u>1/</u> |
| Japan | - | 15 | - | - | - |
| Netherlands | 410 | 418 | 398 | 442 | 214 |
| Netherlands-Antilles | - | - | - | 23 | - |
| Switzerland | - | - | - | <u>1/</u> | - |
| United Kingdom | 30 | 419 | 55 | 1,125 | 1,219 |
| United States | <u>3,319</u> | <u>6,569</u> | <u>5,198</u> | <u>4,176</u> | <u>4,606</u> |
| Total | <u>3,764</u> | <u>7,425</u> | <u>5,677</u> | <u>5,850</u> | <u>6,112</u> |
| Total Value (\$'000) | <u>1,776</u> | <u>3,985</u> | <u>5,401</u> | <u>6,925</u> | <u>6,084</u> |

1/ Less than one metric ton.SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 70

CANADIAN IMPORTS OF MIXTURES AND DERIVATIVES
OF OILS, FATS AND WAXES
(Metric Tons)

| <u>COUNTRY OF ORIGIN</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|--------------------------|---------------|---------------|---------------|---------------|---------------|
| Belgium-Luxembourg | - | - | 1 | - | - |
| Brazil | - | - | - | 20 | - |
| France | <u>1/</u> | - | 3 | 6 | 1 |
| Germany, West | 362 | 41 | 103 | 98 | 116 |
| India | - | - | - | - | <u>1/</u> |
| Japan | - | - | - | - | - |
| Netherlands | 1 | 2 | 1 | - | <u>1/</u> |
| Norway | - | - | - | - | 118 |
| Sweden | - | 2 | - | - | - |
| United Kingdom | 197 | 147 | 66 | 153 | 316 |
| United States | <u>13,906</u> | <u>15,144</u> | <u>14,780</u> | <u>10,886</u> | <u>12,031</u> |
| TOTAL | <u>14,468</u> | <u>15,338</u> | <u>14,958</u> | <u>11,163</u> | <u>12,585</u> |
| TOTAL VALUE (\$'000) | <u>6,079</u> | <u>6,996</u> | <u>10,022</u> | <u>8,415</u> | <u>9,195</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-007.

TABLE 71

CANADIAN EXPORTS OF CHEMICALLY MODIFIED OILS,
FATS AND WAXES
(Metric Tons)

| <u>DESTINATION</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| Australia | - | - | 1 | - | - |
| Bahamas | <u>1/</u> | - | <u>1/</u> | - | - |
| Barbados | - | - | - | 27 | - |
| Bermuda | <u>1/</u> | <u>1/</u> | - | - | - |
| Brazil | - | 22 | - | - | - |
| Cuba | 17 | - | - | - | - |
| Ecuador | 1 | - | - | - | - |
| France | 219 | - | 32 | 14 | - |
| Germany, West | 218 | 44 | 24 | <u>1/</u> | 2 |
| Guyana | - | - | - | <u>1/</u> | - |
| Israel | - | - | - | 4 | - |
| Italy | 45 | 16 | - | - | - |
| Japan | 539 | 498 | 240 | 20 | -- |
| Leeward-Windward Is. | - | <u>1/</u> | - | - | - |
| Netherlands-Antilles | 1 | - | 1 | - | - |
| Panama | - | <u>1/</u> | - | - | - |
| Peru | 2 | - | - | - | - |
| Poland | - | - | - | - | <u>1/</u> |
| United Kingdom | 587 | 19 | 36 | 18 | - |
| United States | 807 | 1,461 | 1,759 | 3,212 | 3,008 |
| Venezuela | <u>17</u> | <u>--</u> | <u>1</u> | <u>9</u> | <u>1</u> |
| TOTAL | <u>2,458</u> | <u>2,062</u> | <u>2,097</u> | <u>3,306</u> | <u>3,012</u> |
| TOTAL VALUE (\$'000) | <u>930</u> | <u>821</u> | <u>995</u> | <u>578</u> | <u>663</u> |

1/ Less than one metric ton.

SOURCE: Statistics Canada, Catalogue No. 65-004.

CHAPTER 14SELECTED FINISHED PRODUCTS

Canadian production of peanut butter remained over 30,000 metric tons for the second year in a row although production was down some 6% in 1976 over 1975 (Table 72). Continuing reasonable prices for competing protein products no doubt has been responsible for the levelling off of the market.

The amount of Canadian production of salad dressings and mayonnaise continues to fall and has returned to the levels of 1972 at 35,942 metric tons.

Sandwich spread production remains fairly steady but has also returned to the level of 1972.

TABLE 72

CANADIAN PRODUCTION OF PEANUT BUTTER, SALAD DRESSINGS
AND MAYONNAISE, AND SANDWICH SPREADS
 (Metric Tons)

| <u>PRODUCT</u> | <u>1972</u> | <u>1973</u> | <u>1974</u> | <u>1975</u> | <u>1976</u> |
|---|---------------|---------------|---------------|-----------------------|---------------|
| Peanut Butter | 26,308 | 25,628 | 29,211 | 33,211 | 31,328 |
| Salad Dressings ^{1/} and Mayonnaise ^{2/} | 35,698 | 39,326 | 41,504 | 38,379 | 35,942 |
| Sandwich Spreads | <u>2,630</u> | <u>2,948</u> | <u>2,766</u> | <u>x^{3/}</u> | <u>2,609</u> |
| Total | <u>64,636</u> | <u>67,902</u> | <u>73,481</u> | <u>-</u> | <u>69,879</u> |

1/ Salad dressing and French dressings shall contain not less than 35% vegetable oil.

2/ Mayonnaise, mayonnaise dressing and mayonnaise salad dressing shall contain not less than 65% vegetable oil.

3/ Confidential to meet secrecy requirements of the Statistics Act.

SOURCE: Statistics Canada, Catalogue No. 32-018

CONVERSION FACTORSSTATUTORY WEIGHT PER BUSHEL AND BUSHEL EQUIVALENT PER METRIC TON

| <u>OILSEED</u> | <u>Pounds</u> | <u>Kilograms</u> | <u>Bushel Equivalent Per Metric Ton</u> |
|----------------|---------------|------------------|---|
| Flaxseed | 56 | 25.402 | 39.368 |
| Soybeans | 60 | 27.216 | 36.744 |
| Rapeseed | 50 | 22.680 | 44.092 |
| Sunflowerseed | 30 | 13.608 | 73.487 |
| Mustardseed | 50 | 22.680 | 44.092 |

| <u>OILSEED PRODUCTS</u> | <u>Extraction Rate (Per Cent)</u> | <u>Yield Per Bushel (Pounds)</u> | <u>Weight of Gallon (Pounds)</u> |
|---|---|--|--|
| Flaxseed, Oil | 35.4 | 19.8 | 9.3 |
| Linseed Meal | 61.7 | 34.6 | - |
| Soybeans, Oil | 17.7 | 10.6 | 9.2 |
| Meal | 80.0 | 47.3 | - |
| Rapeseed, Oil ^{1/} | 40.0 | 20.0 | 9.1 |
| Meal | 57.5 | 28.75 | - |
| Sunflowerseed, Oil ^{2/} | 40.0 | 12.0 | 9.2 |
| Meal | 38.0 | 11.4 | - |
| Mustardseed, ^{3/} Oil (Yellow) | 28 | - | - |
| Oil (Oriental) | 40 | - | - |
| Oil (Brown) | 36 | - | - |

^{1/} Rapeseed oil yields seem to have reached a fairly stable level of about 40 per cent on an "as received" basis. The previous factor of 37.5 per cent has been changed accordingly.

^{2/} The introduction of new sunflowerseed varieties has increased the oil yield on crushing to the 40 per cent level. The previous factor of 36 per cent has been changed accordingly. The meal yields continue to show fluctuations, and this factor has not been changed.

^{3/} Mustardseed is not crushed in Canada, and is primarily used for condiment purposes. Yellow, oriental and brown mustardseed varieties are grown in Canada, and the theoretical extraction rates reflect average oil contents of the seed, calculated on a dry basis.

OTHER PRODUCTS: Marine Oils: 1 Imperial gallon = 9.1 pounds.

AUG 13 1986

